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BULLETIN

OF THE

North Carolina Board of Health.

Published Monthly at the Office of the Secretary of the Board, Raleigh, N. C.

GEO. G. THOMAS, M. D., *Pres.*, Wilmington.
S. WESTRAY BATTLE, M. D., Asheville.
HENRY W. LEWIS, M. D., Jackson.
J. L. NICHOLSON, M. D., Richlands.

W. P. IVEY, M. D., Lenoir.
FRANCIS DUFFY, M. D., New Bern.
W. H. WHITEHEAD, M. D., Rocky Mt.
J. L. LUDLOW, C. E., Winston.

RICHARD H. LEWIS, M. D., *Secretary and Treasurer*, Raleigh.

VOL. XVIII.

APRIL, 1903.

No. 1.

The Medical License Law as Amended.

We print below our medical license law as amended by the last Legislature. The necessity for amendment arose from the decision of our Supreme Court in *State v. McKnight* to the effect that ministering to the sick without the use of drugs or surgical operation was not practicing medicine under the original law. The decision was a surprise and a disappointment to us, but there was no help for it but to have the defect corrected by the General Assembly if possible. And so the bill entitled "An act to Define the Practice of Medicine and Surgery," which was printed in the February BULLETIN, was introduced. After most vexatious delays it was finally passed, but badly crippled by the amendment exempting Christian Scientists—in our deliberate judgment the most dangerous to the public of all the quacks, for the simple reason that they claim to be equal to the successful

management of diseases of all kinds, "Otherwise it (Christian Science) would not be of God"—to use their own words. There cannot possibly be anything more dangerous in a physician, or one assuming his functions, than a combination of ignorance and overwhelming self-confidence, even if it be called faith in God, and our people are sure to suffer from it.

It is said that such a lobby was sustained as was never known in Raleigh before—a half-dozen Christian Scientists, on an average, at the Yaborough House and in the Capitol continuously for an even month, and three lawyers, two of whom, skilled and experienced lobbyists, were always on the ground. Every individual member of the General Assembly, it is said, was seen. But notwithstanding all this, we confidently believe, in the light of the unanimously favorable report of the joint committee on health, and for other reasons, that the bill would have passed without the Christian Science amendment if we had not

been most unfortunate from that point of view in our selection of a father for it. Showing it to one of the most distinguished and influential members of the House, and our personal friend, he remarked, "I am in favor of that—very much in favor of it"—whereupon we immediately asked him to introduce it, which he very kindly agreed to do. Sometime afterwards we were astonished to learn that he favored exempting the Christian Scientists—not that he thought any more of them than we did—apparently not as much—from his remarks, but that he did not believe in "fighting a sentiment." That handicap was too much for us.

The amendment in regard to osteopaths we accepted as not being unreasonable, although presented in a very awkward form.

We print below the license law as amended to date, the amendment just adopted being all of section 3122, from the words "For the purposes of this act," in line 7 to the end of that section. We also append the by-laws, rules and regulations of the last Board of Medical Examiners, which will hardly be materially changed, and the names of the members of the new Board, which will begin its six years term at Hot Springs on May 27th.

THE LAWS REGULATING THE PRACTICE OF MEDICINE IN NORTH CAROLINA.

(From The Code).

SECTION 3121. MEDICAL SOCIETY OF THE STATE, A BODY POLITIC. PRIVATE LAWS. 1858-'9, c. 258, s. 1:

The association of regularly graduated physicians, calling themselves "The State Medical Society," is hereby declared to be a body politic and corporate, to be known and distinguished by the

name of "The Medical Society of the State of North Carolina."

SEC. 3122. WHO MAY PRACTICE. 1858-'9, c. 258, s. 2:

No person shall practice medicine or surgery, nor any of the branches thereof, nor in any case prescribe for the cure of disease for fee or reward, unless he shall have been first licensed so to do in the manner hereinafter provided.

For the purposes of this act the expression practice of medicine or surgery shall be construed to mean the management or treatment for fee or reward of any case of disease, physical or mental, real or imaginary, with or without drugs, surgical operation, surgical or mechanical appliances, or by any other method whatsoever: *Provided*, that this shall not apply to midwives, nor to nurses: *Provided further*, that applicants not belonging to the regular school of medicine shall not be required to stand an examination except upon the branches taught in their regular colleges, to-wit, the osteopaths shall be examined only upon Descriptive Anatomy, General Chemistry, Histology, Physiology, Urinalysis and Toxicology, Hygiene, Regional Anatomy, Pathology, Neurology, Surgery, Applied Anatomy, Bacteriology, Gynecology, Obstetrics and Physical Diagnosis: "*Provided*, this act shall not apply to any person who ministers to or cures the sick or suffering by prayer to Almighty God, without the use of any drug or material means."

SEC. 3123. BOARD OF PHYSICIANS TO CONSIST OF SEVEN. 1858-'9, c. 258, ss. 3, 4:

In order to the proper regulation of the practice of medicine and surgery, there shall be established a board of regularly graduated physicians, to be known by the title of "The Board of Medical

Examiners of the State of North Carolina," which shall consist of seven regularly graduated physicians.

SEC. 3124. DUTY OF BOARD. 1858-'9, c. 258, s. 5:

It shall be the duty of the said Board to examine all applicants who shall exhibit a diploma, or furnish satisfactory proof of graduation, from a medical college in good standing requiring an attendance of not less than three years and supplying such facilities for clinical instruction as shall meet the approval of the said Board, for license to practice medicine or surgery, or any of the branches thereof, on the following branches of medical science: Anatomy, Physiology, Surgery, Pathology, Medical Hygiene, Chemistry, Pharmacy, Materia Medica, Therapeutics, Obstetrics, and the Practice of Medicine, and if on such examination they be found competent, to grant to each applicant a license or diploma, authorizing him to practice medicine and surgery, or any of the branches thereof: *Provided*, five members of the Board shall constitute a quorum and four of those present shall be agreed as to the qualifications of the applicant: *Provided*, that the requirement of three years' attendance shall not apply to those graduating prior to January first, 1900: *Provided further*, that license or other satisfactory evidence of standing as a legal practitioner in another State shall be accepted in lieu of a diploma and entitle to examination.

SEC. 3125. TEMPORARY LICENSE. 1858-'9, c. 258, s. 7:

To prevent delay and inconvenience, two members of the Board of Medical Examiners may grant a temporary license to any applicant who shall comply with the requirements as to graduation prescribed in section three thousand one

hundred and twenty-four as amended, and make report thereof to the next regular meeting of the Board: *Provided*, such temporary license shall not continue in force longer than the next regular meeting of the Board, and such temporary license shall in no case be granted after the applicant has been refused a license by the Board of Medical Examiners.

SEC. 3126. HOW APPOINTED. 1858-'9, c. 258, s. 9:

The Medical Society shall have power to appoint the Board of Medical Examiners.

SEC. 3127. WHERE AND WHEN TO ASSEMBLE. 1870-'1, c. —, s. 11:

The Board of Medical Examiners shall assemble at the same time and place when and where the Medical Society assembles, which Society shall assemble at least once in every year at such time and place as the said Society, at its next preceding meeting, shall have fixed; and the said Board shall remain in session from day to day until all applicants who may present themselves for examination within the first five days after its meeting shall have been examined and disposed of: *Provided*, that the said Board may, at its discretion, meet not more than one week before the said Society, but always in the same place; and that one additional meeting in each year may be held at some suitable point in the State if deemed advisable.

SEC. 3128. OFFICERS, ETC. 1858-'9, 258, s. 11:

The Board of Medical Examiners are authorized to elect all such officers and to frame all such by-laws as may be necessary, and in the event of any vacancy by death, resignation or otherwise, of any member of said Board, the Board, or a quorum thereof, is empowered to fill such vacancy.

SEC. 3129. THE BOARD OF EXAMINERS TO KEEP A RECORD. 1858-'9, c. 258, s. 12:

The Board of Examiners shall keep a regular record of its proceedings in a book kept for that purpose, which shall always be open for inspection, and shall cause to be entered on a book kept for the purpose the name of each applicant licensed to practice medicine and surgery, and the time of granting the same, together with the names of the members of the Board present, and shall publish the names of those licensed in two of the newspapers published in the city of Raleigh, within thirty days after the granting of the same.

SEC. 3130. LICENSE. 1858-'9, c. 258, s. 13:

The Board shall have power to demand of every applicant thus licensed the sum of ten dollars before issuing a license or diploma, and the sum of five dollars for each temporary license, to be paid to the Secretary of the Board.

SEC. 3131. THE BOARD; THEIR COMPENSATION. 1870-'1, c. —, s. 14:

The members of the said Board shall each receive as a compensation for their services four dollars per day during the time of their session, and in addition thereto their traveling expenses to and from their places of meeting by the most direct route from their respective places of residence, to be paid by the Secretary of the Board out of any moneys in his hands, upon the certificate of the President of the Board of Medical Examiners.

SEC. 3132. PRACTICING WITHOUT LICENSE. 1858-'9, c. 258, s. 15; 1885, c. 117 AND 261:

Any person who shall practice medicine or surgery without having first applied for and obtained license from the said Board of Examiners, shall not

be entitled to sue for or recover before any court any medical bill for services rendered in the practice of medicine or surgery or any of the branches thereof. And any person who shall begin the practice of medicine or surgery in this State for fee or reward, after the passage of this act [March 7th, 1885], without first having obtained license from said Board of Examiners, shall not only not be entitled to sue for or recover before any court any medical bill for services rendered in the practice of medicine or surgery, or any of the branches thereof, but shall also be guilty of a misdemeanor, and upon conviction thereof shall be fined not less than twenty-five dollars, nor more than one hundred dollars, or imprisoned at the discretion of the court, for each and every offence: *Provided*, that this act shall not be construed to apply to women who pursue the vocation of a midwife: *And provided further*, that this act shall not apply to any reputable physician or surgeon resident in a neighboring State or coming into this State for consultation with a registered physician resident therein. But this proviso shall not apply to physicians resident in a neighboring State regularly practicing in this State: *Provided*, that this section shall not apply to physicians who have a diploma from a regular medical college, and were practicing medicine or surgery in this State prior to the seventh day of March, one thousand eight hundred and eighty-five.

SEC. 3133. MAY RESCIND LICENSE. 1858-'9, c. 258, s. 16:

Said Board shall have the power to rescind any license granted by them when, upon satisfactory proof, it shall appear that any physician thus licensed has been guilty of grossly immoral conduct.

SEC. 3134. SECRETARY. 1858-'9, c. 258, s. 17:

The Secretary of the Board of Medical Examiners shall give bond, with good security, to the President of the Board, for the safe-keeping and proper payment of all moneys that may come into his hands.

REGISTRATION. 1889, c. 181, ss. 3 (IN PART), 4, 5, 6, 7:

SEC. 3. That chapter thirty-four of The Code be amended by striking from section three thousand one hundred and twenty-five the words "for confirmation," and by adding immediately after section three thousand one hundred and thirty-four the following words: "Any person who shall begin the practice of medicine or surgery in this State after the passage of this act shall personally appear before the Clerk of the Superior Court of the county in which he resides or practices within thirty days after obtaining a license from the Board of Medical Examiners of the State, as now provided by law for registration."

SEC. 4. That any person applying for registration as herein provided shall produce and exhibit before the Clerk of the Superior Court a license obtained from the Board of Medical Examiners aforesaid; and upon such exhibit being made as aforesaid the Clerk shall register the date of registration with the name and residence of such applicant in a book to be kept for this purpose in his office, marked "Register of Physicians and Surgeons," and shall issue to him a certificate of such registration under the seal of the Superior Court of the county upon the form furnished him, as hereinafter provided, for which the Clerk shall be entitled to collect from said applicant a fee of twenty-five cents. The person obtaining said cer-

tificate shall be entitled to practice medicine or surgery, or both, in the county where the same was obtained, and in any other county in this State: but if he shall remove his residence to another county he shall exhibit the said certificate to the Clerk of such other county and be registered, which registration shall be made by said Clerk without fee or charge: *Provided*, that any one having obtained a temporary license, as provided in section three thousand one hundred and twenty-five of The Code, shall not be entitled to register, but may practice during the time such license shall remain in force.

SEC. 5. That any person who shall practice medicine or surgery in this State without first having registered and obtained the certificate as aforesaid shall be guilty of a misdemeanor, and upon conviction thereof shall be fined not less than twenty-five dollars nor more than one hundred dollars, or be imprisoned at the discretion of the Court, for each and every offence: *Provided*, this act shall not apply to women pursuing the vocation of midwife, nor to reputable physicians or surgeons resident in a neighboring State coming into the State for consultation with a registered physician of this State.

SEC. 6. That any Clerk of the Superior Court who shall register or issue a certificate to any person in any other manner than that prescribed by this act shall be guilty of a misdemeanor, and upon conviction thereof shall be fined not less than two hundred dollars and shall be removed from office.

SEC. 7. That it shall be the duty of the Medical Society of the State of North Carolina to prescribe a proper form of certificate required by this act.

**By-Laws, Rules and Regulations of the
Board of Medical Examiners of the
State of North Carolina.**

THE BOARD.

SECTION 1. The Board shall meet on Wednesday afternoon preceding the regular meeting of the Medical Society of the State of North Carolina, at the place designated for the meeting of said Society and at such other time and place as may be deemed necessary. It shall continue in session until all business regularly coming before it is disposed of.

SEC. 2. Each member of the Board shall attend promptly on the first day of the session. He shall absent himself from no meeting without a satisfactory excuse; should he do so for two successive meetings, the Board shall declare his place vacant and proceed to fill same as provided by law.

SEC. 3. The officers of the Board shall be a President, Secretary, and Treasurer.

SEC. 4. The President shall be the executive officer of the Board, presiding at all meetings, and exercising a general supervision over all business of the Board.

SEC. 5. The office of Secretary and Treasurer shall be combined. He shall perform the usual duties pertaining to those offices, collect all fees, keep accurate account of same, pay out all money upon proper voucher, register candidates, conduct all correspondence relating to the business of the Board, keeping copy of all letters written and file all letters received, give due notice of all regular special meetings of the Board, and furnish information at all times in regard to matters pertaining to the Board. He shall be custodian of all books, papers and records of the Board, and shall see that same are carefully preserved for transmission to his successor, and shall

perform such other duties as may be assigned to him. He shall give bond to the Board for the proper keeping and accounting of all money coming into his hands, in the sum of one thousand dollars (\$1,000). He shall receive such compensation for his services as the Board may see fit to allow, not exceeding two hundred dollars (\$200) per annum.

APPLICANTS FOR LICENSE.

SEC. 6. All who contemplate applying to the Board for license must be present on the first day of the regularly advertised meetings and register with the Secretary at the time appointed for registration, due notice of which will be given. No registration will be allowed after the completion of the first examination, except by special permission of the Board. Each applicant shall present his diploma and file with the Secretary of the Board, at the time of registration, a certificate of good moral character attested by two persons known to the Board, and pay the fee of ten dollars (which fee shall be returned in the event of the applicant's rejection). He shall also present a signed certificate, on a blank to be furnished by the Secretary, setting forth in detail his name in full, place and date of birth, present residence, the months and years with names of colleges in which he (or she) studied medicine, the opportunities afforded the applicant for clinical instruction, with the date and college of graduation in medicine, and names of two references as to personal character. When all applicants have been registered these papers shall immediately be sealed by the Secretary, and kept unopened until after the ballot upon the numbers of the applicants shall have been had, when they shall be opened to complete the records.

SEC. 7. Applicants will not be allowed to leave the examination room unless accompanied by a member of the Board, or to communicate with one another for any purpose whatever after the examination is commenced.

SEC. 8. Each applicant before handing his papers to the Examiners shall sign a pledge with his number, stating that he has neither given nor received assistance during the examination. Should any one be found guilty of violating this pledge, he shall be rejected and debarred from re-examination for two years.

SEC. 9. Each member of the Board shall on the first day of each session submit for the consideration of the entire Board a copy of the questions he proposes to require answered by the applicants upon his branch, and the Board may alter or amend the same before approval. The order in which the different examinations are to be conducted shall be determined by lot at this meeting also, though the first and second examinations are, as a rule, accorded the President and Secretary.

SEC. 10. The examinations will commence on Thursday at 9 a. m. following the first day of the session, and shall continue until completed (except on Sunday), not to exceed five hours being allowed to each branch, with proper allowance for rest and recreation as the Board may deem necessary.

SEC. 11. All examinations shall be written unless by special permission. The applicant shall write only on the paper furnished by the Board, and the carrying into the examination hall of any other paper, books or materials calculated to aid in any way in the examinations is strictly forbidden. The violation of this rule will in all cases excuse applicants from further attendance on the examinations. At the end of

each examination paper he shall sign his number (under no circumstances his name or any sign or token indicative of the same) and affix the pledge thereto.

SEC. 12. When an applicant registers with the Secretary he shall be given an envelope with a number on the outside and a blank card on the inside; on receiving this, applicant will write his full name and address on the card, replace same in envelope, seal the envelope and return at once to the Secretary who shall carefully preserve same. Each applicant shall have a separate table assigned him numbered to correspond with the number on his envelope. He will be allowed to use no other during the examination, and will be designated by this same number when each examiner grades his examination, and voted on by it also, in the ballot had when the grades of all the examiners are summed up and compared.

SEC. 13. Not less than two members of the Board shall always be present during the progress of an examination, one of whom shall be engaged in no other business than supervising the examination. He shall note carefully any irregularities and report the same to the Board.

SEC. 14. To secure license an average grade of not less than 80 (maximum 100) will be required of each applicant. When the Board shall have concluded the examinations a vote shall be taken in the following way. A number is announced, when each examiner in turn, after consulting his record, votes the grade made by the applicant bearing that number upon the examination on his branch. The average grade is ascertained, when if 80, or above, the number is declared elected; and when below 80, rejected. The envelope bearing the corresponding number is then

opened and the name of the applicant ascertained, when the number, vote and name are recorded and the consideration of the next number taken up and disposed of in like manner.

SEC. 15. An applicant receiving a grade of 35, or less, on any one branch, regardless of his grade on other branches, shall be rejected. A vote rejecting an applicant cannot be reconsidered except to correct a manifest mistake, or by unanimous consent of the Board. An applicant rejected at a regular session of the Board shall not be considered eligible to apply for temporary license during the interval between the time of such rejection and the next session of the Board, though he may be examined regularly at the next session of the Board following his rejection.

SEC. 16. Visitors will not be allowed in the examination hall during the examination, except by permission of the examiner in charge, and under no circumstances shall such visitor communicate with an applicant without permission.

The Board of Medical Examiners of the State of North Carolina, 1902-'8.

M. H. Fletcher, M. D., Asheville, President, Examiner in Physiology and Hygiene; Frank H. Russell, M. D., Wilmington, Examiner in Surgery; James M. Parrott, M. D., Kinston, Examiner in Anatomy and Histology; C. O'H. Laughinghouse, M. D., Greenville, Examiner in Obstetrics and Gynecology; A. A. Kent, M. D., Lenoir, Examiner in Practice of Medicine; J. T. J. Battle, M. D., Greensboro, Examiner in Materia Medica and Therapeutics; George W. Pressly, M. D., Secretary, Charlotte, Examiner in Chemistry and Pharmacy.

Review of Diseases for March, 1903.

EIGHTY-FIVE COUNTIES REPORTING.

Ninety-six counties have Superintendents of Health.

Except in the case of the more contagious and dangerous diseases the Superintendent has, as a rule, to rely upon his own information alone, since few physicians can be induced to report cases of non-contagious diseases to him.

Where the number of cases is not given or the prevalence of a disease otherwise indicated, its mere presence in the county is to be understood as reported.

For the month of March the following diseases have been reported from the counties named:

MEASLES.—Burke, 10 cases; Caldwell, 25; Chatham, 1; Cleveland, several; Davie, 2; Guilford, 2; McDowell, 45; Mecklenburg; Rockingham; Stokes, 20; Surry, 25; Washington, epidemic; Yancey—13 counties.

WHOPING-COUGH.—Beaufort, 5; Bladen, many; Caswell, several; Chowan, in all parts; Cleveland, several; Cumberland, a few; Dare; Duplin, several; Guilford, 7; McDowell, 30; Mecklenburg; New Hanover, many; Pender, many; Perquimans, 25; Pitt: Richmond, a few; Rockingham; Rowan, 6; Rutherford, a few; Sampson, a few; Stokes, 10; Union, 15; Wake, 10; Washington, in all parts; Wilkes, 2; Wilson, 3; Yancey, several—27 counties.

SCARLET FEVER.—Alamance, 2; Catawba, 3; Davie, 1; Granville, 2; Iredell, 1; Mecklenburg; New Hanover, 2; Stanly; Wilkes, 1—9 counties.

DIPHTHERIA.—Bladen, 1; Brunswick, 2; Craven, 4; Currituck, 4; Gaston, 1; Mecklenburg; Randolph, 3; Robeson, 1—8 counties.

TYPHOID FEVER.—Alexander, a few; Beaufort, 2; Brunswick, 2; Camden, 1; Chatham, 2; Craven, 1; Davidson; Gates, 1; Graham, 1; Green, 2; Iredell, 1; Jones, 1; Lenoir, several; McDowell, 1; Martin, 2; Nash, 5; Onslow, 2; Pamlico, a few; Perquimans, 1; Pitt, a few; Randolph, 5; Richmond, a few; Rockingham, a few; Rutherford, 1; Union, 3; Vance, 2; Wake, 6; Wilkes, 3; Yancey, a few—29 counties.

MALARIAL FEVER.—Brunswick; Camden; Caswell; Gaston; Gates, 6; Pender, in all parts; Perquimans; Person—8 counties.

MALARIAL FEVER, HEMORRHAGIC.—Brunswick, 2; Perquimans, 1; Person, 1.

BOWEL DISEASES.—Wayne.

INFLUENZA.—Brunswick; Carteret, Caswell; Guilford; Johnston; Lenoir; Montgomery; Moore; Person; Richmond; Robeson; Rockingham, in all parts; Sampson; Scotland, in all parts; Stokes; Vance, in all parts; Washington, in all parts; Yadkin—18 counties.

MUMPS.—Burke, in nearly all parts; Caswell; Cleveland; Currituck, many cases; Dare; Gaston; Hyde, in all parts; New Hanover, in all parts; Pamlico; Swain; Yancey—11 counties.

PNEUMONIA.—Alleghany, a few; Edgecombe, a few; Gaston; Graham, in all parts; Greene; Johnston; Lenoir; Moore; Onslow; Person; Randolph; Robeson; Rockingham, in all parts; Scotland, in all parts; Vance, in all parts; Wilkes, in all parts—16 counties.

ROSEOLA.—Caswell.

VARICELLA.—Columbus, in many parts; Onslow, a few.

SMALL-POX.—Burke, 25; Cabarrus, 3; Caldwell, 4; Catawba, 9; Chatham, 1; Cleveland, 2; Davidson, 28; Davie, 2; Durham, 13; Forsyth, 15; Gaston, a few; Graham, 5; Guilford, 11; Hay-

wood, 11; Henderson, 5; Iredell, 6; Lincoln, 5; McDowell, 20; Macon, 9; Madison, 4; Mecklenburg, 18; Orange, 6; Polk, 2; Rockingham, 27; Rowan, 5; Rutherford, 3; Sampson, 8 or 12; Stanly, 17; Stokes, 15; Surry, 3; Swain, 2; Union, 3; Wake, 1; Wilkes, 10—34 counties.

CHOLERA, IN CHICKENS.—Cleveland.

CHOLERA, IN HOGS.—Hyde.

DISTEMPER, IN DOGS.—Vance.

GLANDERS, IN DOMESTIC ANIMALS.—Union.

No diseases reported from Anson, Ashe, Bertie, Clay, Franklin, Hertford, Jackson, Northampton, Pasquotank, Transylvania and Warren.

No reports received from Buncombe, Cherokee, Halifax, Harnett, Mitchell and Warren.

Summary of Mortuary Report for March, 1903.

(TWENTY-FIVE TOWNS).

	White.	Col'd.	Total.
Aggregate population.....	80,850	57,400	138,250
Aggregate deaths..	99	115	214
Representing temporary annual death rate per 1,000.....	14.7	24.0	18.6
<i>Causes of Death.</i>			
Typhoid fever	0	2	2
Malarial fever	2	0	2
Whooping-cough...	2	4	6
Measles	0	1	1
Pneumonia.....	20	17	37
Consumption	9	24	33
Brain diseases	9	7	16
Heart diseases.....	5	9	14
Neurotic diseases...	2	3	5
Diarrhœal diseases	5	4	9
All other diseases..	40	38	78
Accident	3	6	9
Suicide	1	0	1
Violence	1	0	1
	99	115	214
Deaths under five years.....	16	30	46
Still-born.....	3	11	14

Mortuary Report for March, 1903.

TOWNS AND REPORTERS.	RACES.	POPULATION.		TEMPORARY ANNUAL DEATH RATE PER 1,000.																	TOTAL DEATHS. By Races. By Towns.		Deaths under five years, Still-born		
		By Races.	Total.	By Races.	Total.	Typhoid Fever.	Scarlet Fever.	Malarial Fever.	Diphtheria.	Whooping-cough.	Measles.	Pneumonia	Consumption.	Brain Diseases.	Heart Diseases.	Neurotic Diseases.	Diarrheal Diseases.	All Other Diseases.	Accident.	Suicide.	Violence.	By Races.	By Towns.	Deaths under five years.	Still-born
Charlotte	W.	11,000	18,200	17.0	17.8	...	...	1	...	1	...	2	3	...	...	...	1	9	...	...	...	17	...	3	1
Dr. F. O. Hawley.	C.	7,200		16.7		1	...	1	5	1	10	27	6	1
Durham	W.	8,000	13,000	12.0	14.8	...	...	...	...	...	...	2	1	...	...	...	...	...	...	...	...	8	16	3	1
Dr. N. M. Johnson.	C.	5,000		19.2		4	3	1	8	16	3	1
Edenton	W.	1,200	3,000	0.0	4.0	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	0	1	...	...
Dr. T. J. Hoskins.	C.	1,800		6.7	
Fayetteville	W.	2,500	4,800	0.0	5.0	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	0	2	...	...
Dr. John D. MacRae.	C.	2,300		10.4		1	...	1	2	...
Goldsboro	W.	3,500	6,100	0.0	5.9	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	0	3	...	...
Geo. E. Hood, Mayor.	C.	2,600		13.8		3	...
Greensboro	W.	6,100	10,100	13.8	23.8	...	...	...	...	...	...	2	2	...	...	...	1	2	...	...	...	7	20	2	3
Jno. S. Michaux, C. C.	C.	4,000		39.0		1	1	2	1	...	1	...	7	13	20	2	3
Laurinburg	W.	900	1,500	26.7	16.0	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	2	2	1	...
Dr. A. W. Hamer.	C.	600		0.0		0	2	1	...
Lenoir	W.	1,200	1,500	30.0	24.0	...	...	...	...	...	...	1	...	...	...	...	1	1	...	...	...	3	3	...	...
Dr. A. A. Kent.	C.	300		0.0		0	3
Lexington	W.	800	1,300	15.0	9.2	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	1	...	...
J. H. Moyer, Mayor.	C.	500		0.0		0	1
Marion	W.	800	1,200	15.0	20.0	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	1	2	...	...
Dr. Guy S. Kirby	C.	400		30.0		1	1	...
Monroe	W.	1,850	2,450	6.5	4.9	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	1	...	...
Dr. J. M. Blair.	C.	600		0.0		0	1
Oxford	W.	1,200	2,300	0.0	5.2	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	0	1	...	...
Dr. S. D. Booth.	C.	1,100		10.9		1	1	...
Raleigh	W.	8,000	13,800	7.5	16.5	...	...	...	...	...	...	1	1	...	1	...	1	1	...	...	...	5	19	1	...
T. P. Sale, Clerk B. H.	C.	5,800		29.0		1	5	3	5	14	19	7	2
Reidsville	W.	2,900	4,200	20.7	51.4	...	...	...	1	...	...	...	1	...	...	...	3	...	...	...	...	5	18	...	...
Jas. T. Smith, C. C.	C.	1,300		120.0		3	1	3	2	1	3	13	18	4	...
Rocky Mount	W.	1,600	3,100	7.5	3.9	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	1	...	...
Dr. G. L. Wimberley, Jr	C.	1,500		0.0		1	0	1
Salem	W.	3,300	3,650	21.8	23.0	...	...	...	...	...	...	1	...	...	1	...	4	...	...	...	...	6	7	1	1
F. E. Keehlp, Supt. H.	C.	350		34.3		1	...
Salisbury	W.	3,900	6,400	40.0	35.6	...	...	...	...	...	...	5	...	2	...	...	1	3	2	...	...	13	19	1	...
Dr. W. W. McKenzie.	C.	2,500		28.8		1	...	1	...	2	1	1	6	...
Southport	W.	900	1,400	13.3	8.6	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	1	...	...
Dr. D. I. Watson.	C.	500		0.0		0	...
Tarboro	W.	2,000	2,500	6.0	9.6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	2	...
Dr. Wm. J. Thigpen.	C.	500		24.0		1	1	...
Wadesboro	W.	1,000	1,700	0.0	7.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	1	...	...
Dr. J. H. Bennett.	C.	700		17.1		1	1	...
Washington	W.	3,000	5,500	16.0	17.4	...	...	...	...	...	...	1	...	...	...	...	3	...	...	...	...	4	8	...	...
Dr. Jno. G. Blount.	C.	2,500		19.2		1	2	1	4	...	1	...
Waynesville	W.	1,000	1,300	12.0	18.5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	...	...
Dr. Thos. Stringfield.	C.	300		40.0		1	1	...
Weldon	W.	700	1,450	0.0	8.3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	1	...	...
J. T. Gooch, Mayor.	C.	750		16.0		1	...
Wilmington	W.	10,000	21,000	20.4	27.4	...	...	...	...	...	...	2	2	3	1	...	5	...	1	...	...	17	48	...	...
Dr. Chas. T. Harper.	C.	11,000		33.8		1	...	1	3	4	1	6	2	1	1	2	31	48	8	5
Wilson	W.	3,500	6,800	17.1	14.1	...	...	...	...	...	...	1	...	3	...	...	1	...	...	...	...	5	8	3	1
Dr. Albert Anderson.	C.	3,300		10.9		2	1	3	...

N. B.—The reporters for the cities and towns printed in **Black Type** have signed this certificate: "I hereby certify that this report gives the *whole* number of deaths occurring within the corporate limits during the above month."

*In addition there were two deaths of non-residents.

County Superintendents of Health.

Alamance	Dr. H. R. Moore.	Jones.....	Dr. S. E. Koonce.
Alexander	Dr. C. J. Carson.	Lenoir	Dr. C. L. Pridgen.
Alleghany	Dr. Robt. Thompson.	Lincoln	Dr. T. F. Costner.
Anson	Dr. J. H. Bennett.	McDowell	Dr. G. S. Kirby.
Ashe.....	Dr. J. W. Colvard.	Macon	Dr. F. L. Siler.
Beaufort	Dr. Jno. G. Blount.	Madison	Dr. Jas. K. Hardwicke.
Bertie	Dr. H. V. Dunstan.	Martin.....	Dr. W. H. Harrell.
Bladen.....	Dr. L. B. Evans.	Mecklenburg.....	Dr. C. S. McLaughlin
Brunswick	Dr. J. A. McNeill.	Mitchell.....	Dr. V. R. Butt.
Buncombe	Dr. E. B. Glenn.	Montgomery	Dr. M. P. Blair.
Burke.....	Dr. J. L. Laxton.	Moore.....	Dr. Gilbert McLeod
Cabarrus.....	Dr. R. S. Young.	Nash	Dr. J. P. Battle.
Caldwell	Dr. A. A. Kent.	New Hanover	Dr. W. D. McMillan
Camden.....	Dr. J. L. Lister.	Northampton.....	Dr. H. W. Lewis.
Carteret	Dr. F. M. Clark.	Onslow.....	Dr. E. L. Cox.
Caswell	Dr. S. A. Malloy.	Orange.....	Dr. D. C. Parris.
Catawba	Dr. Geo. H. West.	Pamlico.....	Dr. H. P. Underhill.
Chatham.....	Dr. H. T. Chapin	Pasquotank	Dr. J. E. Wood.
Cherokee.....	Dr. Oscar Patton	Pender.....	Dr. R. J. Williams
Chowan.....	Dr. T. J. Hoskins.	Perquimans	Dr. C. C. Winslow
Clay	Dr. J. O. Nichols.	Person	Dr. J. A. Wise.
Cleveland	Dr. B. H. Palmer.	Pitt.....	Dr. C. O'H. Laughing- house.
Columbus.....	Dr. I. Jackson.	Polk	
Craven.....	Dr. N. H. Street.	Randolph	Dr. S. A. Henley.
Cumberland.....	Dr. Jno. D. McRae.	Richmond.....	Dr. F. J. Garrett.
Currituck	Dr. H. M. Shaw.	Robeson.....	Dr. H. T. Pope.
Dare	Dr. W. B. Fearing.	Rockingham	Dr. Sam Ellington.
Davidson.....	Dr. Joel Hill.	Rowan.....	Dr. W. L. Crump.
Davie	Dr. James McGuire.	Rutherford.....	Dr. T. B. Twitty.
Duplin	Dr. O. F. Smith.	Sampson	Dr. R. E. Lee.
Durham	Dr. N. M. Johnson.	Scotland	Dr. A. W. Hamer.
Edgecombe	Dr. W. J. Thigpen.	Stanly.....	Dr. V. A. Whitley.
Forsyth.....	Dr. John Bynum.	Stokes	Dr. W. V. McCanless
Franklin	Dr. E. S. Foster.	Surry	Dr. John R. Woltz.
Gaston.....	Dr. J. H. Jenkins.	Swain.....	Dr. A. M. Bennet.
Gates.....	Dr. W. O. P. Lee.	Transylvania	Dr. C. W. Hunt.
Graham	Dr. R. J. Orr.	Tyrrell.....	
Granville	Dr. S. D. Booth.	Union	Dr. John M. Blair.
Greene.....	Dr. C. S. Maxwell.	Vance.....	Dr. H. H. Bass.
Guilford.....	Dr. Edmund Harrison.	Wake.....	Dr. J. J. L. McCullers
Halifax	Dr. I. E. Green.	Warren.....	Dr. E. M. Gayle.
Harnett.....	Dr. O. L. Denning.	Washington	Dr. W. H. Ward.
Haywood	Dr. S. B. Medford.	Watauga.....	Dr. T. C. Blackburn.
Henderson	Dr. J. G. Waldrop.	Wayne.....	Dr. Williams Spicer.
Hertford	Dr. J. H. Mitchell.	Wilkes.....	Dr. W. P. Horton.
Hyde	Dr. E. H. Jones.	Wilson.....	Dr. W. S. Anderson
Iredell	Dr. M. R. Adams.	Yadkin	Dr. M. A. Royall.
Johnston	Dr. R. L. Davis.	Yancey	Dr. J. L. Ray.
	Dr. L. D. Wharton		



BULLETIN

OF THE

North Carolina Board of Health.

Published Monthly at the Office of the Secretary of the Board, Raleigh, N. C.

GEO. G. THOMAS, M. D., *Pres.*, Wilmington.

S. WESTRAY BATTLE, M. D., Asheville.

HENRY W. LEWIS, M. D., Jackson.

J. L. NICHOLSON, M. D., Richlands.

W. P. IVEY, M. D., Lenoir.

FRANCIS DUFFY, M. D., New Bern.

W. H. WHITEHEAD, M. D., Rocky Mt.

J. L. LUDLOW, C. E., Winston.

RICHARD H. LEWIS, M. D., *Secretary and Treasurer*, Raleigh.

VOL. XVIII.

MAY, 1903.

No. 2

Notice to Physicians.

Owing to the absence during the month of June of Mr. McCarthy the Biological Laboratory will be closed until July 1st. After that date, for at least three months, the demand for analyses of waters suspected of conveying typhoid fever will be much larger than ordinarily, so that our sole Biologist having to make monthly analyses of all the municipal water supplies of the State, will have very little time for other work. Physicians are therefore requested not to send specimens of sputum during the time specified except in urgent cases.

MALARIA AND MOSQUITOES.

Keep in mind the demonstrated fact that mosquitoes transmit malaria and that they can be exterminated by draining or oiling every ten days all stagnant pools in the neighborhood, and by seeing that water is not allowed to stand in barrels, etc.

Germs and Germicides.

BY GERALD MCCARTHY, BIOLOGIST.

In popular speech the terms Disinfectant, Germicide, Antiseptic and Deodorant are used synonymously. But these terms are not synonyms, and should not be so used, at least by physicians and public officers. A disinfectant is, strictly speaking, any substance or agent which will destroy infections, pathogenic matter. Such matter usually includes bacteria or "germs," but not necessarily so. Snake poison and ptomaines are destroyed by disinfectants. Fire, steam under pressure, strong mineral acids, corrosive sublimate, chloride of lime and formaldehyde are disinfectants.

A germicide is a substance which will destroy bacteria and protozoan organisms, though not necessarily enzymes like snake venom or the chemical products of bacterial life. A disinfectant is always a germicide, though a germicide may not be always a disinfectant.

An antiseptic is a substance which will restrict the activity of putrefactive bacteria. Diluted germicides are always antiseptics.

A deodorant is a substance which absorbs or combines chemically with volatile matter. Charcoal and dry earth are examples of deodorants.

In former ages the spread of epidemics was supposed to be an "inscrutable visitation of Providence." Latterly men have learned that epidemics are always the result of bacterial or microbic infection, and such infections are the direct result of ignorant or wilful disregard of the laws of health. Many people still imagine that epidemics are caused by some peculiar conjunction of the planets or state of the atmosphere. But those educated in sanitary science know that the laws of life and health are as invariable as the laws of physics. They know that the planets possess no appreciable influence over human health, and that though conditions of weather may restrain or favor the spread of infectious diseases it can never originate them. Neither do germs or infectious diseases ever arise spontaneously. The accepted dogmas of modern science are "*Ex nihil, nihil fit*" and "*Omne vivum ex vivo*."

The germ theory of infectious diseases was established in the latter half of the last century by the united labors of Pasteur, Tyndall and many lesser lights in biology. In particular diseases Koch discovered the microbe of tuberculosis only in 1882. Eberth isolated the bacillus of typhoid in 1880. Laveran determined the germ of malaria in the same year. Biologists are busy to-day trying to identify the specific organisms of small-pox, scarlet fever, yellow fever and many other dis-

eases which from indirect evidence we know to be of bacterial origin, but are as yet unable to locate the particular species.

According to the best evidence, very few cases of infectious diseases are of congenital origination. Most tuberculous mothers give birth to non-infected offspring. Where infection takes place it is nearly always post-natal and due to communication of the germs of the disease usually through the air or on contaminated food or clothing which passes from mother to child. Diseases that are communicable are always preventable. The business of the sanitarian is to prevent the transmission of disease-producing germs from person to person and from locality to locality. All rational health legislation has for its end the same purpose. As people become more civilized the importance of drugs decrease and the dependence on disinfectants, cleanliness and hygienic measures increases.

Sanitarians have in the last few years given to us lessons in the value of municipal hygiene and cleanliness as preventives of epidemics that the world will never forget. Havana and Santiago in Cuba have been for centuries notorious as the breeding spots for yellow fever, one of the most destructive diseases known to science. When the Americans took possession of the cities named they found there an incredible amount of filth and the people living in violation of the most elementary laws of health. Col. Waring in Havana and Gen. Wood in Santiago set to work on jobs that might have discouraged even Hercules, the hero who cleansed the Augean stables. But after a couple of years' active work the modern imitators of the Grecian hero completed their

respective labors, and with the removal of the accumulated filth of centuries they improved greatly the health of the people.

The brilliant work of the U. S. Army Commission under the late Surgeon Walter Reed, in demonstrating the mosquito as the cause of yellow fever and the clinching of the theory by Surgeon Gorgas in his practical work abolishing the disease from Havana marks an epoch in sanitation.

In Porto Rico small-pox has been endemic for generations, and the entire population has at length become acclimated to this filthy disease in so far that it has nearly ceased to be fatal to the natives. The Americans have introduced compulsory vaccination, and by this measure alone have now practically freed the island from small-pox for the first time since Columbus landed.

These lessons should be taken into serious consideration by the law-makers and all who have to do with the public health in the Southern States. In this section we have a large and ignorant population very prone to disregard the rules of hygiene and personal cleanliness. We need active and well-directed work along the same lines that have been found so successful in the West Indies.

Among the best and most generally attainable of modern disinfectants we must give preference to the following six. All of these are efficient where surroundings are suitable, but for particular uses each possesses some advantage over the others. There is no "best," all-around disinfectant. In a general way, however, the practical value of the several substances is in about the order given:

1. Hypochloride of lime—bleaching powder.

2. Sulphate of copper—blue-stone.

3. Bichloride of mercury—corrosive sublimate.

4. Dioxide of sulphur—sulphur fumes.

5. Carbolic acid.

6. Formalin.

Hypochloride of Lime.—This substance sold by druggists under the name of bleaching powder is one of the most active and effective of all disinfectants, and for general household use we give it preference to all others. It is not poisonous. It acts by oxidizing or burning up organic matter. The action is very prompt, and by the same action the substance itself is destroyed or transformed into another compound, so that it soon becomes inert. The substance comes in the form of a white powder, which is very soluble in water and is destructive to all known germs and spores in strength of 4 per cent. Hypochloride of lime sells at wholesale at about \$1.50 per 100 pounds. It can be bought of most druggists at 5 to 10 cents per pound. The odor of the concentrated powder is very powerful and irritating, but when used as a solution of 3 to 5 per cent. the odor is not disagreeable. This is the best of all disinfectants for chamber use. For use dissolve 5 ounces in one gallon of clean water and use immediately.

Sulphate of Copper.—This is the common spraying chemical so extensively used by fruit-growers under the name of "blue-stone." The method of action of blue-stone is similar to that of the hypochloride of lime, but is much slower, and the substance does not so easily decompose. A 4 per cent. solution is strong enough. This is made by adding

3 ounces of blue-stone to a gallon of water. The blue-stone solution is of especial value for disinfecting the sputum discharges of tuberculous people. The solution corrodes metals, and must therefore be used only in earthen or glass or fiber vessels. It is not poisonous.

Bichloride of Mercury.—This is the well known corrosive sublimate. Corrosive sublimate is our most active and powerful disinfectant, and in proper hands is the best of all for many purposes, but it is extremely poisonous, and therefore not a suitable household disinfectant. It combines chemically with organic matter, being at the same time itself decomposed. It is, on this account, less valuable than either the lime or copper solutions named above for disinfecting sputum or faces. Corrosive sublimate is chiefly used for disinfecting the hands and instruments used in surgical operations. It is effective at a strength of 1 per 1,000. When used for disinfecting large masses of tissue it should be used at a strength of 1 to 500. For ordinary use to make a 1 to 1,000 solution dissolve one and one-half ounce in $3\frac{1}{2}$ gallons of water. In order to prevent accidents in use of this substance add enough indigo or washing blue to color the solution a bright blue.

Dioxide of Sulphur.—This is the fumes of burning brimstone. The fumes or gas of brimstone has been used as a disinfectant from time immemorial. It is still, for disinfecting cellars, ships and large rooms, the best of all disinfectants. Its disadvantage is that when strong enough to be effective it corrodes metals and bleaches colors in wall paper and upholstery. It is very cheap, however, and its penetrative power exceeds that of any other available substitute.

Used in the presence of moisture this gas is as nearly perfect as we can hope to find among practicable disinfectants.

The usual dosage is 3 pounds of roll brimstone or "flowers of sulphur" for 1,000 cubic feet. A room 10 x 10 x 10 feet contains 1,000 cubic feet. The sulphur is placed in an iron pot. This is in turn placed in a large pan or tub, with enough water in the outer vessel to completely surround the inner one and reach nearly to the top. A little alcohol is poured upon the sulphur and ignited. The sulphur will burn until all is consumed. Before igniting the sulphur the room must be made as nearly gas-tight as possible. Wet strips of common newspaper or the manilla paper used by grocers will do. Press these over cracks without using paste or glue. The room must be so moist that the water will not evaporate from these strips, which will therefore remain tight against the cracks. Not less than one gallon of water should be in the outer vessel, and this should preferably be boiling hot. The room must be kept closed for at least six hours after the sulphur has begun to burn.

Carbolic Acid.—This substance has long held a place in public estimation inferior only to corrosive sublimate as a general disinfectant. But recent tests under rigorous scientific conditions seem to indicate that it has been over-rated. Only in strong solutions is it effective as a disinfectant, though very useful as an antiseptic. For disinfecting purposes the crude acid is better than the refined, but both are less active and more costly than either the lime or copper solutions above described.

Formaldehyde or "Formalin."—Formaldehyde is a gas which, as found in

commerce, is dissolved in water. The usual strength is 40 per cent. "Formalin" was originally the trade name of a 40 per cent. solution, but is now the most common name for this substance. This is one of the newest and best of the disinfectant class, though to be efficient it must be properly applied, which is not always done by those who use it. Whether used as a pure gas or as a solution in water this substance volatilizes, and when used as a disinfectant it must be treated as a gas, and under similar conditions to those already described for sulphur gas. As a dry gas the germicidal power of formalin is slight. It must be used in the presence of abundant moisture. In any case the penetrating power of formalin is slight—much less than that of sulphur gas. It is therefore effective only for surface disinfection and for thin and porous materials. For each 1,000 cubic feet of space the proper dose is $1\frac{1}{4}$ pints of 40 per cent. formaldehyde or commercial "Formalin." The solution is added to four times its volume of water and evaporated over a heater in a closed gas-tight room. There are many forms of "generators" on the market which produce the pure gas by imperfect combustion of wood alcohol, or from specially prepared "pastiles." These generators are, however, more expensive and less efficient than a simple iron pot and alcohol or kerosene lamp which boils the dilute solution, thereby supplying at once the necessary gas and moisture. Another method of using formalin is to spray it on sheets hung in the room to be fumigated. This method has been found very unreliable and is not recommended. Formalin or 40 per cent. formaldehyde can be purchased in most localities at about 25 cents per quart.

The special advantages of formalin over sulphur gas is that it does not bleach colors nor corrode metals. It can therefore be used freely in rooms containing valuable furniture and ornaments without danger of injuring these. Neither the gas nor solution are poisonous, though they are irritating. Where sulphur fumes can be used without much damage, sulphur fumigation is cheaper, more effective and more desirable than fumigation with formalin, but the latter may be used where the former cannot. The commercial water solution, diluted with ten volumes of clear water, may be used as a liquid disinfectant for most purposes for which other liquid disinfectants have been recommended, but for such purposes formalin possesses no advantage and is more expensive than most of the others.

In many households no proper disinfectant can be found in cases of emergency. In such cases a good substitute can usually be found in common washing soda, used as a 2 per cent. solution in water. This is made by boiling $1\frac{1}{2}$ pounds of sal soda in one gallon of water. This solution may be used to cleanse soiled bedding or the body. Clothing soiled by tuberculous sputum or typhoid excreta may be sterilized by soaking for six hours in this solution. The clothing should then be dried in full sunshine. A one per cent. solution of caustic soda is equally efficient. "Concentrated lye," as found in the stores, may be used instead of sal soda. Cresol and lysol, two derivatives of coal tar, possess strong disinfectant properties, which in certain cases may prove of special value. But these are expensive and not always available, so they cannot be classed among practicable disinfectants.

The market is full of loudly advertised proprietary disinfectants which, as a general rule, are more or less worthless, or when possessing real value are much more expensive than equally active disinfectants which can be bought under their proper names. The greatest expense in marketing these proprietary remedies is the advertising, therefore such articles are necessarily more expensive to the consumer than chemicals which are not advertised. The great desideratum is to encourage the free use of real disinfectants in the household. To accomplish this purpose we must economize in expense, and should always recommend and use the disinfectant that, being efficient for the particular case, is also the cheapest. We therefore advise against the purchase or use of any of the proprietary disinfectants on the market, since in buying these the purchaser pays chiefly for printer's ink—and manufacturer's "gall."

Review of Diseases for April, 1903.

EIGHTY-FIVE COUNTIES REPORTING.

Ninety-six counties have Superintendents of Health.

Except in the case of the more contagious and dangerous diseases the Superintendent has, as a rule, to rely upon his own information alone, since few physicians can be induced to report cases of non-contagious diseases to him.

Where the number of cases is not given or the prevalence of a disease otherwise indicated, its mere presence in the county is to be understood as reported.

For the month of April the following diseases have been reported from the counties named:

MEASLES.—Burke, 14 cases; Caldwell, 10; Caswell, several; Cleveland, a few; Craven, 3; Guilford, 2; Lincoln, a few; McDowell, 25; Mecklenburg; Rockingham, many; Rutherford, 2; Stokes, 75; Surry, 25; Vance, 3; Washington, 50; Wilkes, 2—16 counties.

WHOOPING-COUGH.—Beaufort, 5; Brunswick, 4; Caswell, several; Cleveland, several; Duplin, several; Edgecombe, a few; Greene, 12; Guilford, 4; Haywood, a few; Lincoln, a few; McDowell, 15; Mecklenburg; New Hanover, many; Pender, epidemic; Perquimans, 20; Richmond, a few; Rockingham; Rutherford, a few; Sampson; Stokes, 25; Union, 10; Wake, 31; Washington, 50; Wilson, many; Yancey—25 counties.

SCARLET FEVER.—Cabarrus, 1; Davidson, 1; Davie, 1; Mecklenburg; Rowan, 4; Stanly; Wake, 1—7 counties.

DIPHTHERIA.—Craven, 2; Haywood, 1; Randolph, 1; Rockingham, a few; Rutherford, 2; Surry, 1; Wilson, 1—7 counties.

TYPHOID FEVER.—Beaufort, 1; Bladen, 1; Brunswick, 2; Caldwell, 1; Chatham, 2; Chowan, 3; Craven, 4; Granville, 1; Iredell, 3; Lenoir, several; Lincoln, 1; McDowell, 2; Moore, 5 or 6; Onslow, 1; Pamlico, 1; Pender, 1; Perquimans, 1; Richmond, 1; Rockingham, a few; Rowan, 2; Sampson, a few; Union, 10; Vance, 1; Wake, 3; Wayne, 3 or 4; Wilkes, 1—26 counties.

MALARIAL FEVER.—Caswell; Columbus, a few; Craven; Currituck, 4; Gates, 6; Hyde; Johnston; Pamlico; Pender; Perquimans; Stanly—11 counties.

MALARIAL FEVER, HEMORRHAGIC.—Craven, 1; Hyde, 1; Perquimans, 1.

BOWEL DISEASES.—Gates, 3; Greene; Lincoln, a few; Martin, in all parts; Moore, a few; Onslow, in all parts;

Richmond; Sampson; Wayne, in nearly all parts—9 counties.

INFLUENZA.—Brunswick; Caswell; Lenoir, in all parts; Moore; Person; Randolph; Rockingham, in most parts; Stanly; Transylvania, a few; Vance, in all parts; Yadkin—11 counties.

MUMPS.—Alexander, in all parts; Bertie; Burke, in nearly all parts; Camden, 1; Cleveland; Currituck, many; Hyde, in all parts; New Hanover, in all parts; Pamlico; Pender; Transylvania, a few; Wayne, in all parts; Yancey—13 counties.

PNEUMONIA. — Alleghany; Caswell; Gaston, a few; Gates, 2; Graham, in all parts; Perquimans; Rockingham, in most parts; Vance, in all parts—8 counties.

VARICELLA.—Alleghany; Columbus, in many parts.

SMALL-POX.—Alamance, 1; Burke, 10; Caldwell, 23; Catawba, 2; Chatham, 9; Cleveland, 1; Davidson, 1; Davie, 7; Durham, 8; Forsyth, 15; Graham, 9; Guilford, 23; Henderson, 4; Iredell, 1; McDowell, 2; Macon, 12; Mecklenburg, 4; Moore, 1; Orange, 40; Randolph, 1; Rockingham, 2; Rowan, 5; Rutherford, 12; Stanly, 20; Stokes, 25; Surry, 3; Swain, 4; Union, 2; Wake, 2—29 counties.

CHOLERA, IN FOWLS.—Cleveland.

DISTEMPER, IN HORSES.—Cleveland.

No diseases reported from Anson. Ashe,

Carteret, Clay, Cumberland, Dare, Hertford, Jackson, Pasquotank, Pitt, Robeson and Warren.

No reports received from Buncombe, Cherokee, Halifax, Harnett, Jones, Madison, Mitchell, Montgomery, Northampton, Polk and Watauga.

**Summary of Mortuary Report for
April, 1903.**

(TWENTY-FOUR TOWNS).

	White.	Col'd.	Total.
Aggregate population.....	70,150	49,950	120,100
Aggregate deaths..	76	97	173
Representing temporary annual death rate per 1,000	13.0	23.3	17.3
<i>Causes of Death.</i>			
Typhoid fever.....	3	0	3
Whooping-cough..	0	5	5
Measles	0	1	1
Pneumonia.....	5	5	10
Consumption	6	19	25
Brain diseases	4	8	12
Heart diseases.....	9	8	17
Neurotic diseases..	0	3	3
Diarrhœal diseases	5	7	12
All other diseases..	35	35	70
Accident	6	5	1
Suicide	2	0	2
Violence ..	1	1	2
	<hr/> 76	<hr/> 97	<hr/> 173
Deaths under five years.....	15	31	46
Still-born....	9	13	22

Mortuary Report for April, 1903.

TOWNS AND REPORTERS.		POPULA- TION.		TEMPORARY ANNUAL DEATH RATE PER 1,000.																			TOTAL DEATHS.		
		By Races.	Total.	By Races.	Total.	Typhoid Fever.	Scarlet Fever.	Malarial Fever.	Diphtheria.	Whooping-cough.	Measles.	Pneumonia.	Consumption.	Brain Diseases.	Heart Diseases.	Neurotic Diseases.	Diarrheal Diseases.	All Other Diseases.	Accident.	Suicide.	Violence.	By Races.	By Towns.	Deaths under five years.	Still-born
Durham	.....	W. 8,000	13,000	10.5	21.2	1	7	...	...	...	...	2	1	1	...	...	...	...	...	...	...	16	23	5	1
Dr. N. M. Johnson.	C. 5,000		38.4		...	...	...	...	...	...	...	1	3	1	2	...	...	...	...	...	...	0	1	...	...
Edenton	.....	W. 1,200	3,000	10.0	4.0	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	0	1	...	1	
Dr. T. J. Hoskins.	C. 1,800		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Fayetteville	.....	W. 2,500	4,800	9.6	12.5	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	2	5	...	1	
Dr. A. S. Rose.	C. 2,300		15.2		...	...	...	...	...	...	...	...	...	2	...	...	...	...	1	...	...	3	...	...	...
Goldsboro	.....	W. 3,500	6,100	3.4	13.8	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	7	...	2	
Geo. E. Hood, Mayor.	C. 2,600		27.7		...	...	...	...	...	...	...	1	...	1	...	1	3	...	...	...	...	6	...	...	...
Greensboro	.....	W. 6,100	10,100	13.8	21.4	...	...	...	...	...	...	...	...	...	...	...	...	5	2	...	7	18	4	2	
Jno. S. Michaux, C. C.	C. 4,000		33.0		...	...	...	...	...	...	...	1	3	1	...	1	...	...	...	...	...	11	...	...	...
Laurinburg	.....	W. 900	1,500	13.3	8.0	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	0	1	...	...
Dr. A. W. Hamer.	C. 600		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	1	...	...
Lenoir	.....	W. 1,200	1,500	10.0	8.0	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	0	1	...	...
Dr. A. A. Kent.	C. 300		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	1	...	...
Lexington	.....	W. 800	1,300	0.0	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	0	...	...
J. H. Moyer, Mayor.	C. 500		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	0	...	...
Marion	.....	W. 800	1,200	45.0	50.0	...	...	...	...	...	...	...	...	1	...	...	...	1	1	...	3	5	...	...
Dr. Guy S. Kirby	C. 400		60.0		...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	2	...	...	...
Monroe	.....	W. 1,850	2,450	19.5	34.3	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	3	7	...	...
Dr. Jno. M. Blair.	C. 600		80.0		...	...	...	...	...	...	...	...	2	...	...	...	...	2	...	...	...	4	...	...	...
Oxford	.....	W. 1,200	2,300	0.0	5.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	1	...	...
Dr. S. D. Booth.	C. 1,100		10.9		...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...
Raleigh	.....	W. 8,000	13,800	13.5	17.4	...	...	...	...	...	...	...	1	1	...	...	1	5	...	...	1	9	20	...	1
T. P. Sale, Clerk B. H.	C. 5,800		9.6		3	2	1	4	1	11	...	3	2
Reidsville	.....	W. 2,900	4,200	8.3	14.3	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	4
Jas. F. Smith, C. C.	C. 1,300		27.7		...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	3	5	2	1
Rocky Mount	.....	W. 1,600	3,100	7.5	11.6	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	2	3	...	...
Dr. G. L. Wimberley, Jr	C. 1,500		16.0		...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
Salem	.....	W. 3,300	3,650	18.2	16.4	...	...	...	...	...	...	...	1	...	...	...	3	...	...	...	5	5	2	2	
F. E. Keehn, Supt. H.	C. 350		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	...	...	...
Salisbury	.....	W. 3,900	6,400	9.2	11.2	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	3	6	...	...
Dr. W. W. McKenzie.	C. 2,500		14.4		...	...	...	...	...	...	...	...	...	1	...	...	...	2	...	...	...	0	...	...	...
Southport	.....	W. 900	1,400	0.0	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	0	...	...
Dr. D. I. Watson.	C. 500		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	...	...	...
Tarboro	.....	W. 2,000	2,500	6.0	9.6	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	2	1	...	
Dr. Wm. J. Thigpen.	C. 500		24.0		...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...
Wadesboro	.....	W. 1,000	1,700	12.0	28.2	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	4	...	...
Dr. J. H. Bennett.	C. 700		51.4		...	...	...	...	...	...	...	...	...	...	1	...	2	...	...	...	...	3	...	...	2
Washington	.....	W. 3,000	5,500	12.0	17.4	1	...	...	...	...	...	...	1	...	...	1	...	...	...	...	3	8	2	...	
Dr. Jno. G. Blount.	C. 2,500		24.0		...	...	...	...	...	...	...	...	2	...	...	2	1	...	...	...	...	5	...	...	2
Waynesville	.....	W. 1,000	1,300	0.0	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	0	...	...
Dr. Thos. Stringfield.	C. 300		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Weldon	.....	W. 700	1,500	17.1	8.0	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	0	1	...	...
J. T. Gooch, Mayor.	C. 800		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Wilmington	.....	W. 10,000	21,000	25.2	24.9	1	...	...	...	...	...	2	2	1	2	...	1	7	3	2	21	47	5	...	
Dr. Chas. T. Harper.	C. 11,000		28.4		...	...	...	...	3	...	...	...	3	2	2	2	2	9	3	...	...	26	10	3	...
Wilson	.....	W. 3,800	6,800	6.3	5.3	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	2	3	...	2	
Dr. W. S. Anderson.	C. 3,000		4.0		...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...

N. B.—The reporters for the cities and towns printed in **Black Type** have signed this certificate: "I hereby certify that this report gives the whole number of deaths occurring within the corporate limits during the above month."

County Superintendents of Health.

Alamance	Dr. H. R. Moore.	Jones.....	Dr. S. E. Koonce.
Alexander	Dr. C. J. Carson.	Lenoir	Dr. C. L. Pridgen.
Alleghany	Dr. Robt. Thompson.	Lincoln	Dr. T. F. Costner.
Anson	Dr. J. H. Bennett.	McDowell	Dr. G. S. Kirby.
Ashe.....	Dr. J. W. Colvard.	Macon	Dr. F. L. Siler.
Beaufort	Dr. Jno. G. Blount.	Madison	Dr. Jas. K. Hardwicke.
Bertie	Dr. H. V. Dunstan.	Martin.....	Dr. W. H. Harrell.
Bladen.....	Dr. L. B. Evans	Mecklenburg.....	Dr. C. S. McLaughlin
Brunswick	Dr. J. A. McNeill.	Mitchell.....	Dr. V. R. Butt.
Buncombe	Dr. E. B. Glenn.	Montgomery	Dr. M. P. Blair.
Burke.....	Dr. J. L. Laxton.	Moore.....	Dr. Gilbert McLeod.
Cabarrus.....	Dr. R. S. Young.	Nash	Dr. J. P. Battle.
Caldwell	Dr. A. A. Kent.	New Hanover	Dr. W. D. McMillan.
Camden.....	Dr. J. L. Lister.	Northampton.....	Dr. H. W. Lewis.
Carteret	Dr. F. M. Clark.	Onslow.....	Dr. E. L. Cox.
Caswell	Dr. S. A. Malloy.	Orange.....	Dr. D. C. Parris.
Catawba	Dr. Geo. H. West.	Pamlico.....	Dr. H. P. Underhill.
Chatham.....	Dr. T. A. Kirkman.	Pasquotank	Dr. J. B. Griggs.
Cherokee.....	Dr. Oscar Patton.	Pender.....	Dr. R. J. Williams
Chowan.....	Dr. T. J. Hoskins.	Perquimans	Dr. C. C. Winslow
Clay	Dr. J. O. Nichols.	Person	Dr. J. A. Wise.
Cleveland	Dr. B. H. Palmer.	Pitt.....	Dr. C. O'H. Laughing-
Columbus.....	Dr. I. Jackson.		house.
Craven.....	Dr. Joseph F. Rhem.	Polk	Dr. C. J. Kenworthy.
Cumberland.....	Dr. A. S. Rose.	Randolph	Dr. W. J. Moore.
Currituck	Dr. H. M. Shaw.	Richmond.....	Dr. F. J. Garrett.
Dare	Dr. W. B. Fearing.	Robeson	Dr. H. T. Pope.
Davidson.....	Dr. Joel Hill.	Rockingham	Dr. Sam Ellington.
Davie	Dr. James McGuire.	Rowan	Dr. W. L. Crump.
Duplin	Dr. A. J. Jones.	Rutherford.....	Dr. T. B. Twitty.
Durham	Dr. N. M. Johnson.	Sampson	Dr. R. E. Lee.
Edgecombe	Dr. W. J. Thigpen.	Scotland	Dr. A. W. Hamer.
Forsyth.....	Dr. John Bynum.	Stanly.....	Dr. V. A. Whitley.
Franklin	Dr. E. S. Foster.	Stokes	Dr. W. V. McCanless
Gaston.....	Dr. J. H. Jenkins.	Surry	Dr. John R. Woltz.
Gates.....	Dr. W. O. P. Lee.	Swain	Dr. A. M. Bennet.
Graham	Dr. R. J. Orr.	Transylvania	Dr. C. W. Hunt.
Granville	Dr. S. D. Booth.	Tyrrell	
Greene.....	Dr. C. S. Maxwell.	Union	Dr. John M. Blair.
Guilford.....	Dr. Edmund Harrison.	Vance.....	Dr. H. H. Bass.
Halifax	Dr. I. E. Green.	Wake.....	Dr. J. J. L. McCullers.
Harnett.....	Dr. O. L. Denning.	Warren	Dr. E. M. Gayle.
Haywood	Dr. J. F. Abel.	Washington	Dr. W. H. Ward.
Henderson	Dr. J. G. Waldrop.	Watauga.....	Dr. T. C. Blackburn.
Hertford	Dr. J. H. Mitchell.	Wayne.....	Dr. Williams Spicer.
Hyde	Dr. E. H. Jones.	Wilkes.....	Dr. W. P. Horton.
Iredell	Dr. M. R. Adams.	Wilson.....	Dr. W. S. Anderson.
Jackson.....	Dr. R. L. Davis.	Yadkin	Dr. M. A. Royall.
Johnston	Dr. L. D. Wharton.	Yancey	Dr. J. L. Ray.



[You are asked to fill out and mail one of these forms to the Superintendent of Health of your county on or before the third of each month, that he may use it in making his report to the Secretary of the State Board.]

Have any of the following diseases occurred in your practice during the month just closed. If so, state number of cases.

Whooping-cough	Typhoid Fever
Measles	Typhus Fever
Diphtheria	Yellow Fever.....
Scarlet Fever	Cholera
Pernicious Malarial Fever.....	Smallpox.....
Hemorrhagic Malarial Fever	Cerebro-spinal Meningitis.....

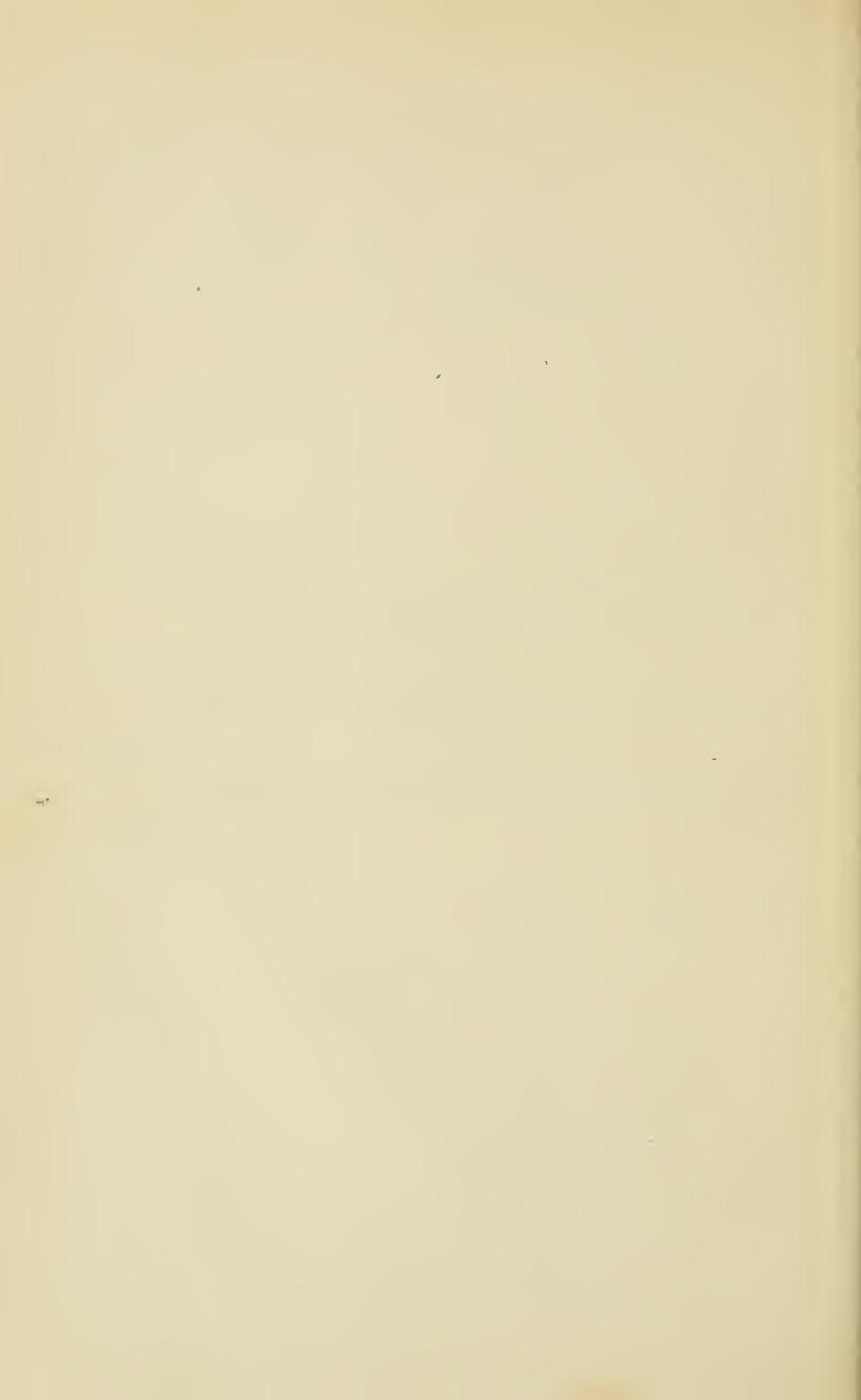
What have been the prevailing diseases in your practice?

Has any epidemic occurred among domestic animals? If so, what?

What is the sanitary condition of your section, public and private?

General Remarks: -----

----- M. D.



BULLETIN

OF THE

North Carolina Board of Health.

Published Monthly at the Office of the Secretary of the Board, Raleigh, N. C.

GEO. G. THOMAS, M. D., *Pres.*, Wilmington.
S. WESTRAY BATTLE, M. D., Asheville.
HENRY W. LEWIS, M. D., Jackson.
J. L. NICHOLSON, M. D., Richlands.

W. P. IVEY, M. D., Lenoir.
FRANCIS DUFFY, M. D., New Bern.
W. H. WHITEHEAD, M. D., Rocky Mt.
J. L. LUDLOW, C. E., Winston.

RICHARD H. LEWIS, M. D., *Secretary and Treasurer*, Raleigh.

VOL. XVIII.

JUNE, 1903.

No. 3.

Annual Meeting of the Board of Health and of the State Medical Society.

The annual business meeting of the Board of Health was held in the Mountain Park Hotel, Hot Springs, on the evening of Tuesday, June 2, Doctors Thomas, Battle, Nicholson, Ivey, Duffy and R. H. Lewis being present.

The transactions were of a routine character, and without special features. The Conjoint Session with the State Medical Society was held as usual, at 12 M. on Wednesday. At this meeting the Secretary of the Board read his annual report, which will be found below, and a discussion of tuberculosis, more especially of the question of transmission to men from infected cattle, was had. The value and interest of this discussion were materially enhanced by the participation therein of Dr. Charles Wardell Stiles, Chief of the Division of Zoology of the U. S. Public Health and Marine Hospital Service, and Dr. Tait Butler, our own State Veterinarian.

From the sanitary point of view the feature of the gathering was the admirable address Tuesday night by Dr. Stiles on *Uncinariasis*, or the Hook Worm Disease, which was listened to with intense interest. Dr. Stiles, having discovered a new species of the hook worm indigenous to our country, which he named *Uncinaria Americana*, and having demonstrated the disease caused by it in numerous individuals in several of the Southern States, including our own, spoke as a master of the subject, and always interestingly and instructively. He made a fine impression, and his address will do much good. In fact, we feel justified in saying that his work on this subject, which will bring sure relief to so many afflicted ones in our Southern country, entitles him to the name of benefactor of our race. The results of his studies of the American hook worm and of the disease caused by it, have been fully and clearly set forth in Bulletin No. 10 of the Hygienic Laboratory of the U. S. P. H. and M.

H. S., Washington, D. C., and any one desiring a copy of the same can obtain it simply for the asking. Dr. Stiles also kindly offered to make the diagnosis for any one sending him a small amount of the feces. This could be mailed in a small bottle enclosed in a tin can or other carrier, and properly packed to prevent breakage. But the general appearance of the victims of *uncinariasis* is so characteristic that the diagnosis can be made with reasonable certainty without the microscope, although the demonstration of the eggs in the feces is necessary to certainty. It is a disease of the country, especially the sandy country, and whenever the country doctor encounters one of these pale, sallow, flabby, not to say bloated, dull-eyed, pot-bellied, thin-legged, listless individuals he may feel reasonably sure that he has hook worms to fight. The treatment recommended for an adult is 15 grains of thymol repeated in two hours and followed in another two hours by a dose of salts. In our next issue we hope to present to our readers an abstract of Dr. Stiles' article.

The matter of most interest before the Medical Society was the question of its re-organization on the lines recommended by the American Medical Association. Our good friend, Dr. McCormack of Kentucky, was present in the interest of the movement, and by his charming personality and winning ways obtained everything he wished. Some say he "hoo-dooed" the Society. Be that as it may, we liked the process, and will be delighted to see him again.

A very interesting thing in connection with this reorganization business is that the Medical Society of North Carolina was originally organized on lines almost identical with those drawn by the Ameri-

can Medical Association in this latest scheme. Theoretically it is a beautiful scheme, and we hope it will work out satisfactorily in practice. We wish it well.

Report of the Secretary of the North Carolina Board of Health, June 1, 1902, to June 1, 1903.

A full statement in detail of the work of the Board from the time of our last meeting, consisting chiefly, in addition to the routine work of the Secretary's office, of inspections of the State institutions and of the public water supplies, will be found in the Biennial Report for 1901 to 1902. This report, notwithstanding the fact that the copy for the same was furnished the State Printer at the usual time, is still in his hands, and I am therefore unable, much to my disappointment, to distribute it at this meeting to those interested. It will, however, be mailed to any one asking for it as soon as it comes from the press.

Since the beginning of the new biennial period on January 1, 1903, our most important work has been in the line of legislation.

Believing that incompetent physicians constitute one of the greatest menaces to the public health, I felt it to be my duty to try to obtain from the General Assembly, if possible, such an amendment to our medical license laws as would cure the defect existing therein as declared by our Supreme Court in its recent decision in *State vs. McKnight*. We gained much, but not all we asked.

The purity of our drinking waters being one of the prime essentials of health, legislation for the better protection of our municipal water supplies was sought and obtained. Inasmuch as a full statement in regard to these two

matters, together with copies of the acts, has already been printed in the monthly BULLETIN, it is unnecessary to repeat them in this report.

I also prepared a bill appropriating twelve hundred dollars to aid in our bacteriological work, and succeeded in getting a favorable report from the Committee on Appropriations of the House. But that was the last of it. It apparently fell immediately to sleep and never waked. Besides the above, I likewise assisted, at their request, the representatives of the State Nurses' Association in preparing a bill for the registration of trained nurses and in securing its passage. The importance of thorough training on the part of the nurses is second only to that rightly demanded of the physicians, and this legislation is clearly in the interest of the public health. While not interfering with the right of any one to nurse the sick, the act, after January 1, 1904, permits the registration and the use of the title R. N. (registered nurse) only to those obtaining a license from the State Board of Examiners, consisting of two physicians, to be elected by the State Medical Society, and three trained nurses, to be elected by the State Nurses' Association. Hereafter the appearance of the letters R. N. after a nurse's name will be a guarantee of her thorough training, and if our physicians will discriminate in their recommendations in favor of that class, they will create a very strong incentive on the part of all trained nurses to enroll themselves in the future among those who will surely be recognized as the best in their calling.

BIOLOGICAL LABORATORY.

Learning that the State Board of Agriculture might be compelled to with-

draw their most valuable aid to the cause of health in having made for us biological analyses of suspected drinking waters, sputum, etc., on account of certain extra demands upon their income made by the last Legislature, I secured the concurrence of the State Water-works Association in certain provisions in the act to protect water supplies, requiring all water companies to have made in our laboratory a monthly analysis of their waters and pay five dollars for each analysis. If the water companies will comply with the law in this respect, the expense of the laboratory can be shared by us, and the people at the same time be more fully protected. Upon the invitation of the Board of Agriculture I appeared before them on May 30th and explained the situation, and our ability, under the act to protect water supplies, to assist in paying part of the expense incident to the hygienic work which they have been so generously doing for us free of charge since December, 1899. I proposed, speaking for the Board of Health, to pay one-half of the salary of the Biologist and to furnish all new apparatus and reagents that might be required for our special work, the Board of Agriculture to furnish the laboratory with its permanent equipment, attendance, water and gas. At their request I put the proposition in writing, and it was formally accepted by a unanimous vote on their part.

SMALL-POX.

Small-pox, I regret to say, has been much more prevalent during the past year than ever before, and more fatal, confirming our predictions to that effect in view of the indifference of our local authorities on the subject of vaccination. And unless there is a change in

this respect I see no reason to anticipate anything else than a continuing recurrence of small-pox until all the people have either been vaccinated or have had the disease.

During the past year, May 1, 1902, to May 1, 1903, small-pox has occurred in fifty-eight counties, the number of cases being, white 1,861, colored 2,595—total 4,456; with deaths, white 58, colored 105—total 163, the death rate per cent. being, respectively, 3.12, 4.04, 3.66. For the

first time in our experience the death rate from this disease has been higher among the negroes than among the whites, the figures heretofore having been very much in favor of the former. A comparison by years, the first period, however, extending from the occurrence of the first case on January 12, 1898, to May 1, 1899, a little over fifteen months, is given in the following tabular statement:

YEAR.	NUMBER OF COUNTIES.	NUMBER OF CASES.			NUMBER OF DEATHS.		
		White.	Colored.	Total.	White.	Col'd.	Total.
1898—1899.....	38	162	554	716	8	9	17
Death rate, per cent.....					4.93	1.97	2.76
1899—1900.....	55	731	2,075	2,806	35	30	65
Death rate, per cent.....					4.78	1.44	2.31
1900—1901.....	54	530	1,415	1,945	15	23	38
Death rate, per cent.....					2.83	1.63	1.95
*1901—1902.....	55	616	1,196	1,812	21	27	48
Death rate, per cent.....					3.41	2.28	2.59
1902—1903.....	57	1,861	2,595	4,456	58	105	163
Death rate, per cent.....					3.12	4.04	3.66
Total number cases January 12, 1898, to May 1, 1903.....		3,900	7,835	11,735			
Total number deaths.....					137	194	331
Death rate, per cent.....					3.51	2.47	2.82

*In this year there were in Wilson county, according to conservative estimates, from twelve to fifteen hundred cases of small-pox, as diagnosed by experts sent to the county, which the Superintendent of Health insisted were not variola and in consequence did not report.

From the above statement it appears that there have been reported to the Secretary since the first case, 11,735 cases of small-pox, with 331 deaths. How many more cases, under the names chicken-pox, Cuban itch, etc., have escaped record, it is, of course, impossible to say. We have good reason to believe that there were certainly over a thousand such cases in one county, Wilson. The only other similar instances were neighborhood outbreaks that were not

discovered until numbers had recovered.

When we consider the loss to the State in the 331 deaths, the expense of caring for nearly 12,000 such cases and the indirect loss in trade, the statement is quite impressive. It is likewise lamentable when we realize that it could have been prevented by the vaccination of all the people.

The following is a tabulated statement, by counties, of small-pox during the past year:

SMALL-POX IN NORTH CAROLINA—MAY 1, 1902, TO MAY, 1903.

COUNTIES.	CASES.			DEATHS.		
	White.	Colored.	Total.	White.	Colored.	Total.
Alamance	4	1	5			
Anson	3		3			
Beaufort		1	1		1	1
Buncombe	305	116	421	2		2
Burke	73	152	225			
Cabarrus	4	13	17	1		1
Camden	1	2	3		1	1
Caldwell	10	75	85		1	1
Carteret	7	10	17		1	1
Catawba	10	66	76			
Chatham	9		9			
Cleveland	30	20	50	2		2
Craven	16	163	179	5	30	35
Cumberland		1	1			
Currituck	9	2	11			
Davidson	29	2	31			
Davie	7	3	10			
Durham	4	40	44			
Forsyth	100	275	375	1	3	4
Gaston	75	25	100	1	1	2
Gates		5	5			
Graham	28		28			
Granville	6	72	78		1	1
Guilford	58	70	128	22	12	34
Haywood	28		28	2		2
Henderson	18	49	67			
Iredell	5	37	42			
Johnston	3	1	4			
Jones	9	9	18	1	2	3
Lincoln	75	8	83			
Macon	24		24			
McDowell	100	200	300	1	1	2
Mecklenburg	101	326	427	11	43	54
Montgomery		17	17			
Moore		1	1			
Nash	5	1	6	1		1
New Hanover		2	2			
Northampton	7	4	11			
Onslow	3	47	50		2	2
Orange		50	50			
Polk	56	25	81			
Randolph	1	32	33			
Richmond	1	5	6			
Rockingham	54	73	127	5	2	7
Rowan	2	125	127		2	2
Rutherford	79	65	144			
Sampson	1	94	95		1	1
Stanly	11	20	31			
Stokes	40	25	65	1		1
Surry	119	63	182		1	1
Swain	300	4	304			
Transylvania		4	4			
Union	11	172	183	1		1
Vance		12	12			
Wake	1	3	4			
Wilson	4	3	7			
Yadkin	13	4	17			
Yancey	2		2			
Total (in 58 counties)	1,861	2,595	4,456	58	105	163
Death rate, per cent.				3.12	4.04	3.66

Review of Diseases for May, 1903.

EIGHTY-TWO COUNTIES REPORTING.

Ninety-six counties have Superintendents of Health.

Except in the case of the more contagious and dangerous diseases the Superintendent has, as a rule, to rely upon his own information alone, since few physicians can be induced to report cases of non-contagious diseases to him.

Where the number of cases is not given or the prevalence of a disease otherwise indicated, its mere presence in the county is to be understood as reported.

For the month of May the following diseases have been reported from the counties named:

MEASLES.—Cleveland, a few cases; Craven, 1; Forsyth, many; Greene, 12; Guilford, 2; Lenoir, 2; McDowell, 10; Mecklenburg; Northampton; Randolph; Surry, 12; Wake, 1; Wilkes, 1; Yadkin, a few—14 counties.

WHOOPING-COUGH.—Beaufort, 40; Bertie, several; Chowan, several; Cumberland, a few; Edgecombe, a few; Greene, 26; Guilford, 2; Henderson, 5; Lenoir, several; Mecklenburg; Moore, several; New Hanover, many; Person; Randolph; Richmond, a few; Robeson, several; Rockingham; Rutherford, a few; Sampson, many; Union, 10; Wake, 13; Washington, general—22 counties.

SCARLATINA.—Davidson, 2; Mecklenburg; Stanly; Wilkes.

DIPHTHERIA.—Carteret, 2; Guilford,

1; Northampton, a few; Person, 1; Union, 1—5 counties.

TYPHOID FEVER.—Beaufort, 6; Bladen, 1; Brunswick, 2; Caldwell, 2; Camden, 2; Carteret, 1; Chatham, 2; Clay, 2; Craven, 2; Cumberland; Edgecombe, 3; Franklin, 3; Gates, 1; Granville, 1; Greene, 4; Guilford, 2; Iredell, 1; Johnston, 1; Lenoir, several; McDowell, 1; Moore, 15; New Hanover, 5; Onslow, 4; Pender, 6; Perquimans, 2; Person, several; Randolph, a few; Richmond, 6; Rockingham; Sampson, a few; Surry, 1; Union, 10; Vance, 2; Wake, 1; Wayne, several; Wilkes, 1; Yadkin, a few—37 counties.

MALARIAL FEVER.—Brunswick; Camden; Cumberland; Currituck; Duplin; Gates, 8; Hyde; Orange; Randolph; Sampson; Vance; Wayne—12 counties.

MALARIAL FEVER, HEMORRHAGIC.—Hyde, two.

MALARIAL FEVER, PERNICIOUS.—Vance, one.

BOWEL DISEASES.—Alleghany; Anson, a few; Bertie, mild general; Brunswick; Buncombe, general; Caldwell, Camden; Catawba; Clay, general; Columbus, Currituck; Davidson, general; Davie, general; Duplin, Forsyth; Franklin, in nearly all parts; Gates, general; Graham, general; Granville; Greene; Henderson; Iredell; Jackson, a few; Lincoln; Moore, general; Northampton, general; Onslow, general; Orange, general; Perquimans; Person; Richmond, general; Robeson; Rockingham, general; Surry; Vance, general; Wayne—36 counties.

INFLUENZA.—Lenoir, in all parts; Pender; Richmond, in all parts; Yancey.

MUMPS.—Alexander, in all parts; Buncombe; Hyde, in all parts; New

Hanover, in all parts; Pamlico; Pender; Sampson—7 counties.

VARICELLA.—Anson, a few; Columbus, epidemic; Orange, a few; Pamlico.

SMALL-POX.—Buncombe, 18; Burke, 5; Chatham, 1; Cleveland, 4; Davie, 2; Durham, 14; Forsyth, 25; Graham, 2; Guilford, 45; Henderson, 2; McDowell, 2; Mecklenburg, 2; Moore, 1; New Hanover, 1; Rutherford, 2; Surry, 8; Wake, 26; Warren, 3; Wilkes, 2; Wilson, 1—20 counties.

CHOLERA, IN CHICKENS.—Clay, Cleveland, Gates.

CHOLERA, IN HOGS.—Chowan, Duplin, Northampton.

No diseases reported from Alamance, Ashe, Cabarrus, Dare, Haywood, Macon, Martin, Nash, Pasquotank, Polk, Scotland, Swain and Transylvania.

No reports received from Caswell, Cherokee, Gaston, Halifax, Harnett, Hertford, Jones, Madison, Mitchell, Montgomery, Pitt, Rowan, Stokes and Watauga.

**Summary of Mortuary Report for
May, 1903.**

(TWENTY-TWO TOWNS).

	White.	Col'd.	Total.
Aggregate population.....	71,650	51,000	122,650
Aggregate deaths..	108	131	239
Representing temporary annual death rate per 1,000	18.9	30.8	23.4
<i>Causes of Death.</i>			
Typhoid fever	0	5	5
Malarial fever	1	2	3
Whooping-cough...	3	4	7
Measles	0	1	1
Pneumonia.....	7	8	15
Consumption	14	18	32
Brain diseases	6	6	12
Heart diseases.....	4	9	13
Neurotic diseases...	2	4	6
Diarrhoeal diseases	21	16	37
All other diseases..	45	53	98
Accident	4	5	9
Violence	1	0	1
	108	131	239
Deaths under five years.....	34	58	92
Still-born....	5	7	12

Mortuary Report for May, 1903.

TOWNS AND REPORTERS.	RACES.	POPULATION.		TEMPORARY ANNUAL DEATH RATE PER 1,000.		Typhoid Fever.	Scarlet Fever.	Malarial Fever.	Diphtheria.	Whooping-cough.	Measles.	Pneumonia.	Consumption.	Brain Diseases.	Heart Diseases.	Neurotic Diseases.	Diarrheal Diseases.	All Other Diseases.	Accident.	Suicide.	Violence.	TOTAL DEATHS.		Deaths under five years.	Still-born.
		By Races.	Total.	By Races.	Total.																	By Races.	By Towns.		
Charlotte	W.	11,000	18,200	29.4	29.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	27	44	6	2
Dr. F. O. Hawley.	C.	7,200		28.3		...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	17	12	2	2
Durham	W.	8,000	13,000	12.0	19.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13	21	5	1
Dr. N. M. Johnson.	C.	5,000		31.2		...	...	...	...	...	...	...	2	...	1	...	...	...	...	...	...	8	2	5	1
Edenton	W.	1,200	3,000	10.0	12.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	3	1	...
Dr. T. J. Hoskins.	C.	1,800		13.3		...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	12	3	1	...
Fayetteville	W.	2,500	4,800	4.8	10.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	4	...	1
Dr. A. S. Rose.	C.	2,300		15.6		1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	12	7	...	...
Greensboro	W.	6,100	10,100	23.6	28.5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	24	7	...
Jno. S. Michaux, C. C.	C.	4,000		36.0		1	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	12	7	...	...
Lenoir	W.	1,200	1,500	20.0	16.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	2	...	...
Dr. A. A. Kent.	C.	300		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	0	...	...
Lexington	W.	800	1,300	0.0	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	0	...	...
J. H. Moyer, Mayor.	C.	500		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	0	...	...
Monroe	W.	1,850	2,450	6.5	9.8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	...	...
Dr. Jno. M. Blair.	C.	600		20.0		...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	3	8	...	...
Oxford	W.	1,200	2,300	30.0	41.7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	8	...	...
Dr. S. D. Booth.	C.	1,100		54.5		1	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	5	1	...	...
Raleigh	W.	8,000	13,800	18.0	26.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	30	2	1
T. P. Sale, Clerk B. H.	C.	5,800		37.2		...	1	...	...	...	...	1	3	...	2	...	...	...	...	...	...	18	8	3	...
Reidsville	W.	2,900	4,200	16.5	17.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	6	...	...
Jas. T. Smith, C. C.	C.	1,300		18.5		...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	2	2	...	...
Rocky Mount	W.	1,600	3,100	15.0	15.5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	4	...	...
Dr. G. L. Wimberley, Jr.	C.	1,500		15.7		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	4	...	...
Salem	W.	3,300	3,650	10.9	13.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	4	3	...
F. E. Keehn, Supt. H.	C.	350		34.3		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	4	...	...
Salisbury	W.	3,900	6,400	18.5	18.7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	10	2	...
Dr. W. W. McKenzie.	C.	2,500		19.2		...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	4	2	...	...
Southport	W.	900	1,400	0.0	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	0	...	...
Dr. D. I. Watson.	C.	500		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	0	...	...
Tarboro	W.	2,000	2,500	12.0	14.4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	3	...	1
Dr. Wm. J. Thigpen.	C.	500		24.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Wadesboro	W.	1,000	1,700	12.0	21.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	3	...	...
Dr. J. H. Bennett.	C.	700		34.3		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...
Washington	W.	3,900	5,500	12.0	15.3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	7	...	...
Dr. D. T. Taylor.	C.	2,500		19.2		...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	4	...	...	...
Waynesville	W.	1,000	1,300	0.0	27.7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	3	...	...
Dr. Thos. Stringfield.	C.	300		120.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	1	...
Weldon	W.	700	1,450	51.4	41.4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	5	2	...
J. T. Gooch, Mayor.	C.	750		32.0		...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	2	...	1	...
Wilmington	W.	10,000	21,000	15.6	26.8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13	47	4	...
Dr. Chas. T. Harper.	C.	11,000		37.1		2	...	1	...	2	...	3	3	1	3	3	2	13	1	...	...	34	16	...	...
Wilson	W.	3,500	6,800	13.7	15.9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	9	1	...
Dr. W. S. Anderson.	C.	3,300		18.2		...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	5	3	...	...

N. B.—The reporters for the cities and towns printed in **Black Type** have signed this certificate: "I hereby certify that this report gives the *whole* number of deaths occurring within the corporate limits during the above month."

In addition one white non-resident died of tuberculosis.

County Superintendents of Health.

Alamance	Dr. H. R. Moore.	Jones.....	Dr. S. E. Koonce.
Alexander	Dr. C. J. Carson.	Lenoir	Dr. C. L. Pridgen.
Alleghany	Dr. Robt. Thompson.	Lincoln	Dr. T. F. Costner.
Anson	Dr. J. H. Bennett.	McDowell	Dr. G. S. Kirby.
Ashe.....	Dr. Manley Blevins.	Macon	Dr. F. L. Siler.
Beaufort	Dr. D. T. Tayloe.	Madison	Dr. Jas. K. Hardwicke.
Bertie	Dr. H. V. Dunstan.	Martin.....	Dr. W. H. Harrell.
Bladen.....	Dr. L. B. Evans.	Mecklenburg.....	Dr. C. S. McLaughlin
Brunswick	Dr. J. A. McNeill.	Mitchell.....	Dr. V. R. Butt.
Buncombe	Dr. E. B. Glenn.	Montgomery	Dr. M. P. Blair.
Burke.....	Dr. J. L. Laxton.	Moore.....	Dr. Gilbert McLeod.
Cabarrus.....	Dr. R. S. Young.	Nash	Dr. J. P. Battle.
Caldwell	Dr. A. A. Kent.	New Hanover	Dr. W. D. McMillan.
Camden.....	Dr. J. L. Lister.	Northampton.....	Dr. H. W. Lewis.
Carteret	Dr. F. M. Clarke.	Onslow.....	Dr. E. L. Cox.
Caswell	Dr. S. A. Malloy.	Orange.....	Dr. D. C. Parris.
Catawba	Dr. Geo. H. West.	Pamlico.....	Dr. H. P. Underhill.
Chatham.....	Dr. T. A. Kirkman.	Pasquotank	Dr. J. B. Griggs.
Cherokee.....	Dr. Oscar Patton.	Pender.....	Dr. R. J. Williams.
Chowan.....	Dr. T. J. Hoskins.	Perquimans.....	Dr. C. C. Winslow
Clay.....	Dr. P. B. Killian.	Person	Dr. J. A. Wise.
Cleveland	Dr. B. H. Palmer.	Pitt.....	Dr. C. O'H. Laughing-
Columbus.....	Dr. I. Jackson.		house.
Craven.....	Dr. Joseph F. Rhem.	Polk	Dr. C. J. Kenworthy.
Cumberland.....	Dr. A. S. Rose.	Randolph	Dr. W. J. Moore.
Currituck	Dr. H. M. Shaw.	Richmond.....	Dr. F. J. Garrett.
Dare.....	Dr. W. B. Fearing.	Robeson	Dr. H. T. Pope.
Davidson.....	Dr. Joel Hill.	Rockingham	Dr. Sam Ellington.
Davie.....	Dr. M. D. Kimbrough.	Rowan.....	Dr. W. L. Crump.
Duplin	Dr. A. J. Jones.	Rutherford.....	Dr. T. B. Twitty.
Durham.....	Dr. N. M. Johnson.	Sampson	Dr. John A. Stevens.
Edgecombe	Dr. W. J. Thigpen.	Scotland	Dr. A. W. Hamer.
Forsyth.....	Dr. W. O. Spencer.	Stanly.....	Dr. V. A. Whitley.
Franklin	Dr. E. S. Foster.	Stokes	Dr. W. V. McCannless.
Gaston.....	Dr. J. H. Jenkins.	Surry	Dr. John R. Woltz.
Gates.....	Dr. W. O. P. Lee.	Swain.....	Dr. A. M. Bennet.
Graham	Dr. V. J. Brown.	Transylvania	Dr. C. W. Hunt.
Granville	Dr. S. D. Booth.	Tyrrell.....	
Greene.....	Dr. C. S. Maxwell.	Union	Dr. John M. Blair.
Guilford.....	Dr. Edmund Harrison.	Vance.....	Dr. H. H. Bass.
Halifax	Dr. I. E. Green.	Wake.....	Dr. J. J. L. McCullers
Harnett.....	Dr. O. L. Denning.	Warren.....	Dr. E. M. Gayle.
Haywood	Dr. J. F. Abel.	Washington	Dr. W. H. Ward.
Henderson	Dr. J. G. Waldrop.	Watauga.....	Dr. T. C. Blackburn.
Hertford	Dr. J. H. Mitchell.	Wayne.....	Dr. Williams Spicer.
Hyde.....	Dr. E. H. Jones.	Wilkes.....	Dr. W. P. Horton.
Iredell	Dr. M. R. Adams.	Wilson.....	Dr. W. S. Anderson
Jackson.....	Dr. R. L. Davis.	Yadkin	Dr. T. R. Harding.
Johnston	Dr. L. D. Wharton.	Yancey	Dr. J. L. Ray.

[You are asked to fill out and mail one of these forms to the Superintendent of Health of your county on or before the third of each month, that he may use it in making his report to the Secretary of the State Board.]

Have any of the following diseases occurred in your practice during the month just closed. If so, state number of cases.

Whooping-cough ----- Typhoid Fever -----

Measles ----- Typhus Fever -----

Diphtheria ----- Yellow Fever -----

Scarlet Fever ----- Cholera -----

Pernicious Malarial Fever ----- Smallpox -----

Hemorrhagic Malarial Fever ----- Cerebro-spinal Meningitis -----

What have been the prevailing diseases in your practice?

Has any epidemic occurred among domestic animals? If so, what?

What is the sanitary condition of your section, public and private?

General Remarks: -----

----- M. D.

BULLETIN

OF THE

North Carolina Board of Health.

Published Monthly at the Office of the Secretary of the Board, Raleigh, N. C.

GEO. G. THOMAS, M. D., *Pres.*, Wilmington.
S. WESTRAY BATTLE, M. D., Asheville.
HENRY W. LEWIS, M. D., Jackson.
J. L. NICHOLSON, M. D., Richlands.

W. P. IVEY, M. D., Lenoir.
FRANCIS DUFFY, M. D., New Bern.
W. H. WHITEHEAD, M. D., Rocky Mt.
J. L. LUDLOW, C. E., Winston.

RICHARD H. LEWIS, M. D., *Secretary and Treasurer*, Raleigh.

VOL. XVIII.

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No. 4.

Hookworm Disease.

In our last issue we promised to give this month an abstract of the admirable report of Dr. Stiles upon the "Prevalence and Geographic Distribution of Hookworm Disease (*Uncinariasis* or *Anchylostomiasis*) in the United States." Since that promise was made, however, we have found in the New York and Philadelphia Medical Journal of July 4th an article by Dr. Bondurant of Mobile, based on an earlier monograph by Dr. Stiles on "Uncinaria and its Influence in the Causation of Disease in Man," which sets forth in an excellent manner the essential features of Dr. Stiles' observations and discoveries in regard to this subject, together with the personal experience of himself and some other Alabama physicians, which will "fill the bill" probably better than an abstract by the writer. It surely will, when considered in a sense as an amplification of Dr. Stiles' own summary of his paper, which, while very concise, is also essentially

complete. But those interested in this extremely important subject, as every physician doing country practice in North Carolina or any part of the South ought to be, should write to the Hygienic Laboratory, Public Health and Marine Hospital Service, Washington, D. C., for Bulletin No. 10, the same being the complete article profusely illustrated. Especially should every physician using a microscope have this article for the pictures of the eggs of the hookworm. With the aid of the pictures and the instructions given, the diagnosis is very easily made. Any physician, however, can have the diagnosis made for him by writing to Mr. Gerald McCarthy, Biologist, Department of Agriculture, enclosing six cents for postage, for a suitable mailing case, and sending him a small specimen of the feces. We sincerely hope that our physicians will all take advantage of this offer and wipe out this serious disease, which is certainly quite prevalent in our State.

To prevent the spread of this disease,

the infection being by the embryo worms in the surface soil, the two most important precautions to be taken are: (1) The cure of the disease, which will at once stop the supply of eggs; and (2) the invariable use of a privy provided with a flap behind to keep out the chickens and pigs, and the removal at proper intervals and burial of the feces. In this way the spreading broadcast of the eggs over the premises would be prevented, and they could not get on the hands and bare feet of the children, nor into the drinking water. The head of every household should compel the systematic and unfailing use of the privy by every member of the family. And every school committee should see to it that this sanitary convenience, one for each sex, is provided for every public school.

We give below the summary and the article referred to above.

SUMMARY OF DR. STILES' ARTICLE.

Convinced from theoretical deductions that hookworm disease (uncinariasis) must be more or less common in the South, a trip was made from Washington, D. C., to Ocala, Fla., stopping at penitentiaries, mines, farms, asylums, schools, and factories, and the fact was established that the chief anæmia of the Southern rural and sand districts is due to uncinariasis, while clay districts and cities are not favorable to the development of this disease.

In the Old World, hookworm disease was probably known to the Egyptians nearly three thousand five hundred years ago, but its cause was not understood until about the middle of the nineteenth century, when it was shown to be due to an intestinal parasite, *Agchylostoma*

duodenale. Until 1893 no authentic cases of this disease were recognized as such in the United States, but between 1893 and 1902 about thirty-five cases were diagnosed. In 1902 it was shown that a distinct hookworm, *Uncinaria americana*, infests man in this country, and this indicated very strongly that the disease must be present, although not generally recognized. It is now established that in addition to the few cases of Old World hookworm disease imported into the United States, we have in the South an endemic uncinariasis due to a distinct cause, *Uncinaria americana*. This disease has been known for years in the South, and can be traced in medical writings as far back as 1808,* but its nature was not understood. Some cases have been confused with malaria, others have been attributed to dirt-eating.

The hookworms are about half an inch long. They live in the small intestine, where they suck blood, produce minute hemorrhages, and in all probability also produce a substance which acts as a poison. They lay eggs, which cannot develop to maturity in the intestine. These ova escape with the feces and hatch in about twenty-four hours; the young worm sheds its skin twice, and then is ready to infect man. Infection takes place through the mouth, either by the hands soiled with larvæ or by infected food. Infection through the drinking water may possibly occur. Finally, the larvæ may enter the body through the skin and eventually reach the small intestine.

Patients may be divided into light cases, in which the symptoms are very obscure; medium cases, in which the

* (An article by Dr. Pitt, "who says that along the Roanoke River, North Carolina, malaria or dirt-eating prevails mostly among the poor white people and negroes and originates in my opinion from a deficiency of nourishment."—ED.)

anæmia is more or less marked, and severe cases, represented by the dwarfed, edematous, anæmic dirt-eater. Infection occurs chiefly in rural sand districts. Above the frost line the symptoms are more severe in summer than in winter, and whites appear to be more severely affected than negroes. Persons who come in contact with damp earth are more commonly infected than others; so that the disease is found chiefly among farmers, miners, and brickmakers. Severe cases are more common in women and children than in men over twenty-five years of age. Uncinariasis is a disease which occurs in groups of cases, and if one case is found in a family the chances are that other members of the same family are infected.

The testimony of patients severely infected is unreliable. Recalling that any one or more symptoms may be absent or subject to variation, it may be noted that the period of incubation (at least before the malady can be diagnosed by finding the eggs) is from four to ten weeks. Stages are not necessarily distinctly defined, but are described as (1) stage of purely local symptoms, corresponding to the light cases; (2) stage of simple anæmia, corresponding to the medium cases; and (3) dropsical stage, corresponding more or less to the severe cases. The duration of the disease after isolation from the source of infection has been traced for six years and seven months; how much longer infection will last is not established. If a patient is subject to cumulative infection, the disease may last five, ten, or even fifteen years, and in case of light infection perhaps longer.

External appearance.—In extreme cases there is a general lack of development; skin waxy white to yellow or tan;

hair is found on the head, but is more or less absent from the body; breasts are undeveloped; nails white; external genitalia more or less rudimentary; face anxious, may be bloated; conjunctive pale; eyes more or less dry, pupil dilates readily; membranes pale according to the anæmia; teeth often irregular; tongue frequently marked with purple or brown spots; cervical pulsations prominent; thorax emaciated; heart beats often visible; abdomen frequently with "pot belly"; extremities emaciated, frequently edematous, and with wounds or ulcers of long standing.

Urine 1010 to 1015; in advanced cases albumin without casts; acid or alkaline.

Feces reddish brown, contain eggs, and may contain blood.

Circulatory system.—Anæmia pronounced, according to degree and duration of infection; blood watery, with decreased red blood corpuscles and with eosinophilia; "heart disease" very commonly complained of; hæmic murmurs present; pulse 80 to 132 per minute.

Temperature.—Subnormal, normal, or to 101° or 102° F.

Respiratory system.—Breathing may be difficult, slow, or increased to as high as 30.

Muscular system.—Emaciation and great physical weakness.

Digestive system.—Appetite poor to ravenous; abnormal appetite often developed for pickles, lemons, salt, coffee, sand, clay, etc.; pain in epigastrium; constipation or diarrhoea.

Nervous system.—Headache, dizziness, nervousness, mental lassitude, and stupidity.

Genital system.—Menstruation irregular or absent: if present, it occurs chiefly in winter; there is a marked tendency to abortion.

Diagnosis.—The safest plan is to make a microscopic examination of the feces to find the eggs; or, if feces are placed on white blotting paper, a blood-like stain will be noticed.

Treatment.—Thymol, or male fern (or ? calomel); iron, and good food.

Prognosis.—Good, if patient is not too far gone at time of treatment.

Lethality.—Not yet determined.

Prevention.—Treat all cases found and dispose of feces.

Economically, uncinariasis is very important. It keeps children from school, decreases capacity for both physical and mental labor, and is one of the most important factors in determining the present condition of the poorer whites of the sand and pine districts of the South.

The disease is carried from the farms to the cotton mills by the mill hands, but does not spread much in the mills; nevertheless, it causes a considerable amount of anæmia among the operatives.

THE HOOKWORM DISEASE IN ALABAMA.*

BY E. D. BONDURANT, M. D.,

MOBILE, ALABAMA,

Professor of Neurology and Pathology in the
Medical Department of the University
of Alabama.

The form of anæmia due to the presence in the intestinal tract of the uncinaria, or hooked thread worm, has been variously named: uncinariasis; ankylostomiasis; mountain cachexia; miner's anæmia; brickmakers' anæmia; St. Gothard tunnel disease; tunnel anæmia; Egyptian chlorosis; hookworm disease. Although known in Egypt more than three thousand years ago, and in our own time extensively distributed throughout northern Africa, southern

Europe, and some tropical countries, its great prevalence in the southern United States has until recently been unrecognized. Prior to 1893, no authentic American case had been reported, and up to two years ago less than forty cases had been placed on record.

The subject of uncinariasis in America has been most exhaustively studied by Dr. Charles Wardell Stiles, chief of the Division of Zoology, Hygienic Laboratory of the Marine Hospital Service, Washington, D. C., whose excellent monograph on the uncinaria and its influence in the causation of disease in man is included in the report of the Bureau of Animal Industry for 1901. This paper is by far the most valuable contribution to our knowledge of this form of parasitic disease which has thus far been made; and to Dr. Stiles, who, by the way, is not a physician, but a doctor of philosophy, belongs the credit of having first suggested the probable great prevalence of uncinariasis in the South. His allegations have been fully corroborated by every one who has taken up the study of the hookworm disease.

Some months ago Dr. W. T. Henderson saw, in consultation with Dr. S. S. Pugh, some cases of extreme and peculiar anæmia in children living in the manufacturing suburb of Pritchard, near Mobile. Suspecting infection by the uncinaria, Dr. Henderson brought the bowel discharges from several of these cases to me for microscopical examination. In all of them I readily demonstrated the presence of ova of the hookworm. It was the discovery of these cases which first actively directed my attention to the disease.

A few days after this, a ten-year-old white boy was brought to me from the

* Read at the meeting of the Medical Association of the State of Alabama, at Talladega, April 22, 23, 24, and 25, 1903.

hill country west of Mobile. He was undersized, emaciated, ghastly pale, short of breath, and so feeble that he could scarcely walk. He was listless, dull, indifferent, suffered from headache, showed œdema of eyelids and ankles, had a ravenous appetite, no bowel disorder, a trace of albumin and a few hyaline casts in the urine. Examination of the blood showed only 25 per cent. of hæmoglobin, although the corpuscular count was near normal. The child had been ailing for four years, and since long-continued treatment for supposed malaria, anæmia, heart disease, and several other maladies, had proved unavailing, his mother had concluded that he must have some nervous disorder, and brought him to me. A microscopical examination of the fæces was at once made, and the eggs of the hookworm were found in abundance. After administration of thymol, adult worms were expelled to the number of many hundreds, and the boy began a rapid improvement, which terminated in entire recovery in a few weeks.

A day or two later a young man, twenty-five years old, came into my office, giving a history of physical feebleness and mental sluggishness, with incapacity for work during many years past. He was emaciated, weak, nervous, apathetic, and obviously anæmic. Blood examination gave him 40 per cent. of hæmoglobin, 4,000,000 red corpuscles. Microscopical search of the bowel discharges revealed the ova of uncinaria, and thymol expelled the worms in large numbers. Improvement was rapid and recovery complete.

Since then I have succeeded in interesting a number of my professional friends in the study of the disease, and have had many specimens of bowel dis-

charge in suspected cases submitted to me for microscopical examination. In all, I have diagnosticated about fifty cases from Mobile, Monroe, Escambia, Crenshaw and Covington counties in Alabama, with one case from Mississippi and one from west Florida.

The cases of Dr. Pugh and Dr. Henderson have already been referred to. They were reported by Dr. Henderson in the February number of the *Mobile Medical and Surgical Journal*.

Dr. L. D. Parker of Searight, in Crenshaw county, writes me that he has some thirty cases in his practice. I have confirmed the diagnosis by microscopical examination in twelve of these, and have no doubt that the remaining cases are of similar nature.

Dr. Charles A. Mohr of Mobile has seen and treated a number of cases, from fifteen to twenty in all.

Dr. C. K. Roe of Spring Hill, five miles west of Mobile, tells me that he has even a hundred or more cases among the poor whites of the sandy-hill country thereabouts.

Dr. G. H. Searcy, physician in charge of the colored insane hospital at Mt. Vernon, Mobile county, has found one nineteen-year-old colored insane patient affected, and several cases in white children living in or near the village of Mt. Vernon. Two specimens of fæces sent me by Dr. Searcy contained hookworm ova.

Dr. S. B. McMillan of Monroe county writes me that he has found, and is now treating, quite a number of cases. He sent me several specimens of fecal matter for diagnostic examination, all of which were proved to contain hookworm ova.

In view of the facts now at hand, there can no longer be any question of

the exceeding frequency of this disease, not only in Alabama, but throughout the South. Stiles, during the autumn of 1902, made a tour of investigation through Virginia, the Carolinas and Georgia, finding the hookworm anæmia widely prevalent. Harris, of Atlanta, who has diagnosed numerous cases in Georgia, expresses the opinion that "by far the greater number of cases of anæmia in Georgia, Florida and Alabama are due, not to malaria, but to ankylostomiasis." Allen J. Smith of Galveston has reported cases in Texas, some of these being discovered by Smith nearly ten years ago, long before any general interest in the disease was shown.

I feel justified in saying that every physician present here to-day, whose practice extends into the country and among the poorer class of whites, has seen not a few, but many cases of uncinariasis. There is good reason for the belief that the hookworm disease is one of the most widely prevalent and one of the most serious with which the poorer class of our white population have to contend.

The disease is easily recognized so soon as one's attention is directed to it, and when discovered in time, easily and quickly cured; while, if its true nature is not recognized, it is practically incurable and often fatal. Furthermore, every person suffering from the hookworm disease is a source of serious and constant danger to other members of his family and to the community in which he lives, since the soil, water and some kinds of vegetable food are sure to become infected by the many millions of hookworm embryos which the sufferer from uncinariasis casts abroad with his bowel movements. It therefore

becomes the duty of us all to recognize quickly the existence of the disease in our midst, to the end that prompt relief may be given the individual patient, and further spread of the disease averted.

In reviewing the clinical symptoms of uncinariasis we find the one ever-present feature to be anæmia. This may be very slight, but in all typical cases is well marked, and in severe cases extreme. It has been noted that the diminution in hæmoglobin percentage is out of proportion to the reduction in number of red blood corpuscles. Both of the cases in which the opportunity of examining the blood was afforded me showed this peculiarity; an excess of eosinophile cells has also been found. The pallor of the skin and mucous surfaces is in many cases quite exceptional. Almost as characteristic as the anæmia are the associated mental and physical feebleness, apathy, indifference and inability and disinclination to work. Normal development is markedly checked, and the subjects are usually undersized, and the growth of hair is scanty. Hæmic heart murmurs are frequent. Oedema of the feet and eyelids is often met with. The appetite is capricious, sometimes ravenous, and a liking for clay, chalk, dirt and other indigestibles is shown. The bowel symptoms are not characteristic. There may be constipation or diarrhœa, or no abnormality. In many instances the fæcal matter is blood-stained, or colored by altered and partly digested blood which has oozed from the wounds made in the intestinal mucosa by the parasites. The "dirt-eaters" of our sand-hills are excellent examples of this disease, and any one who can recall the appearance and mental characteristics of a little stupid,

tallow-faced, dirt-eating boy, has a typical picture of uncinariasis.

While the symptoms are often sufficient for diagnosis, the only absolute differentiation between this and other forms of anemia is made by the finding of the ova of the parasites in the bowel discharges. The method of examination for these is the simplest possible; a small bit of faecal matter is placed upon a slide, a cover-glass applied and pressed down, so as to spread the mass out into a thin, translucent film, and the specimen is examined with a medium high power. The segmented ova are comparatively conspicuous objects, and possess features which readily distinguish them from the eggs of ascaris, tænia, or other intestinal worm. The number of eggs found will give some indication as to the number of adult worms in the intestine, and of the severity of the case. Remember that the eggs only are found by microscopical examination; the adult parasites are never present in the faecal discharge unless some anthelmintic has been previously given. If, for any reason, microscopical examination of the faeces is impossible, in suspected cases the patients may be given thymol, and the faecal matter subsequently passed examined for adult worms. The discovery of the parasites will confirm the diagnosis.

The treatment of uncinariasis consists in expelling the worms by the use of thymol or male fern, and building up the blood quality and physical strength by iron tonics and good food. Thymol is preferred to male fern by most writers, is practically a specific, and has been used in all the cases which I have treated or known of. The patient should be allowed only liquid food for one day, and be given a full dose of calomel. The following morning, before

any food is taken, from forty to sixty grains of thymol are administered, in capsules preferably, either in two doses of twenty to thirty grains each, or ten grains every twenty minutes, which latter is the plan I have followed. Four hours after the last of the thymol is given, a dose of Epsom or Rochelle salts is used, to insure complete emptying of the intestinal tract. The result is usually very satisfactory, hundreds of worms being passed. Several microscopical examinations of the faeces should be made during the following week, and if ova are still present, the thymol should be repeated. About one month later it is considered advisable to give a full dose of thymol as a precautionary measure. It is best not to give thymol in alcoholic or other solution, on account of the danger of poisoning from the very large dose it is necessary to give; and, for the same reason, alcohol, oil or other solvent should not be taken into the stomach for some hours after thymol is administered. Sixty grains is the dose for vigorous, half-grown children and adults. In younger children, and in those who are very weak, forty grains is safer. In one case reported to me by a friend sixty grains of thymol given to an eight-year-old child came near proving fatal, the child becoming pulseless, comatose, and lying *in articulo mortis* for three hours.

The spread of uncinariasis can be guarded against by disinfecting or destroying the stools, and to a great extent by simply preventing the faecal matter from being indiscriminately scattered about. Personal cleanliness and the avoidance of water or food which may possibly have become infected should always be insisted upon.

When discovered in time, and properly treated, the prognosis of the hookworm

disease is uniformly good. There is a rapid improvement in appearance, muscular strength, and mental activity, keeping pace with the rapid increase in hæmoglobin percentage. When permitted to run its course, a considerable proportion of cases end in death. Four fatalities from uncinariasis have already come to my knowledge.

And now a few words regarding the parasite which causes this disease.

The uncinaria is a nematode worm about half an inch in length, the female somewhat larger than the male, thread-like, white or pink in color, and curved at the anterior end. It gains entrance to the intestinal tract during one of its several phases of embryonic development, completes its growth in the intestine, and then attaches itself to the mucous surface of the gut by means of the several hook-like appendages of its oral orifice. It sucks blood directly from the capillaries, but at intervals lets go its hold and attaches itself in a new place. The number of parasites varies from a few in mild cases to many hundreds or even thousands in the severe ones. My friend, Dr. Parker, who took the trouble to count the worms expelled from two of his patients, found in one of them 953, and in the other more than 1,700.

Closely related species of uncinaria are found in dogs, sheep and other animals, as well as in man. The human species has been variously named *Uncinaria duodenalis*; *Ankylostoma duodenale*; *Dochmius duodenalis*; *Strongylus duodenalis*, etc. Stiles has made the interesting and important discovery that the endemic uncinariasis of this country is caused, not by the *Uncinaria duodenalis* of the old world, but by a distinct species for which he proposes the name *Uncinaria americana*. Adult worms

from several of my cases were submitted to Dr. Stiles, and by him pronounced to be specimens of *Uncinaria americana*.

The ova of this worm, so important in diagnosis, are some twenty times the size of a red-blood cell, oval in shape, have a transparent, colorless but very distinct capsule, and a gray or brown granular segmented protoplasm. In fæces which have been kept for a day or two during warm weather, different stages of intracapsular embryonic development may be met with, as well as free, actively-moving embryos, ready to carry infection. These eggs are discharged with the fæces to the number of countless millions daily. They find in the fæcal mass and the surface of the ground upon which it is thrown, conditions favorable to their continued life and development, and persons living in an infected locality are in great danger of contracting the disease by swallowing food or water containing hook-worm embryos. Persons who work in earth, such as farmers, brickmakers and miners, and children who play in the dirt, go barefooted and eat with soiled hands, are particularly endangered. In the South the disease is, according to Stiles, found chiefly on sandy soil. It is never met with in cities or towns having a clean water supply and a system of sewage disposal. Not a single case originating in the city of Mobile has come to my knowledge.

It has not been my aim to review the subject of uncinariasis in its entirety, but simply to lay before you some evidence showing the prevalence of the disease among us, and to urge upon you the importance of a prompt recognition of the proved facts and the necessity for commencing an immediate crusade against the malady.

105 ST. JOSEPH STREET.

Review of Diseases for June, 1903.**EIGHTY-SIX COUNTIES REPORTING.**

Ninety-six counties have Superintendents of Health.

Except in the case of the more contagious and dangerous diseases the Superintendent has, as a rule, to rely upon his own information alone, since few physicians can be induced to report cases of non-contagious diseases to him.

Where the number of cases is not given, or the prevalence of a disease otherwise indicated, its mere presence in the county is to be understood as reported.

For the month of June the following diseases have been reported from the counties named:

MEASLES.—Cumberland, a few cases; Duplin, 2; Greene, 2; Guilford, 5; McDowell, 6; Northampton; Perquimans, 2; Randolph, several; Rockingham, a few; Watauga, 20; Yancey, a few—11 counties.

WHOOPING-COUGH.—Burke, a few; Caldwell, 6; Caswell; Chowan, several; Craven, epidemic; Durham, a few; Greene, 25; Guilford, 4; Henderson, many; Johnston, several; Lincoln; Moore, several; New Hanover, many; Orange, a few; Pasquotank, 7; Perquimans, 1; Pitt, 8; Polk, many; Randolph, several; Rockingham, many; Rutherford, 2; Sampson, many; Vance, in all parts; Wake, 15; Washington, many; Wilkes, 3; Wilson, several—27 counties.

DIPHTHERIA.—Brunswick, 1; Cleveland, 1; Currituck, 2; Mecklenburg; New Hanover, 1; Rutherford, 2—6 counties.

SCARLET FEVER.—Brunswick, 1; Cleve-

land, 1; Currituck, 12; Graham, 1; Mecklenburg; New Hanover, 1; Stanly, 2—7 counties.

TYPHOID FEVER.—Alamance, 5; Alexander, many; Bertie, 1; Bladen, 1; Brunswick, 3; Buncombe, 5; Burke, 10; Caldwell, 4; Camden, 4; Caswell; Catawba, 2; Chatham, 3; Chowan, 2; Clay, several; Cleveland, several; Columbus, several; Craven, 6; Cumberland, a few; Davidson; Duplin, 4; Edgecombe, a few; Forsyth, several; Franklin; Gates, 3; Granville, 1; Greene, 10; Guilford; Haywood, 1; Iredell, 27; McDowell, 4; Macon, 1; Martin, 4; Mecklenburg; Moore, a few; Nash, 8; New Hanover, 7; Northampton, a few; Onslow, 8; Orange, 1; Pasquotank, 1; Pender, several; Person; Pitt, 5; Randolph, a few; Richmond, 6 or 8; Robeson, many; Rockingham, a few; Rutherford, 6; Sampson, a few; Scotland, 12; Stanly, 2; Surry, 3; Union, 20; Vance, in all parts; Wake, 11; Washington, 1; Wilkes, 3; Yadkin, 20—58 counties.

MALARIAL FEVER.—Bertie, in all parts; Brunswick; Camden, in all parts; Cumberland; Currituck, in all parts; Duplin; Gates, 8; Greene; Hyde; Iredell, in all parts; Johnston; Martin, in all parts; Onslow, in all parts; Pamlico; Perquimans, in all parts; Person; Pitt; Randolph; Rockingham; Vance; Wake—21 counties.

MALARIAL FEVER, PERNICIOUS.—Wake, 2.

MALARIAL FEVER, HEMORRHAGIC.—Hyde, 2; Martin, 1; Pitt, 1.

BOWEL DISEASES.—Alleghany, general; Burke; Catawba; Cleveland; Columbus; Currituck, general; Forsyth; Franklin; Gates, general; Graham, general; Granville, in many parts; Henderson, general; Iredell, general; Jackson, a few; Northampton, general; Or-

ange, general; Surry, general; Swain, general—18 counties.

INFLUENZA.—Macon; Richmond.

MUMPS.—Henderson, many; New Hanover, in all parts.

PNEUMONIA.—Caswell; Yadkin.

ROSEOLA.—Caswell.

VARICELLA.—Cumberland.

SMALLPOX.—Alamance, 2; Buncombe, 7; Burke, 4; Chatham, 3; Cleveland, 5; Davie, 2; Durham, 10; Gaston, 7; Guilford, 9; McDowell, 2; Madison, 15; New Hanover, 2; Randolph, 1; Rockingham, 2; Rutherford, 2; Stanly, 20; Warren, 4; Wilkes, 1—18 counties.

No diseases reported from Anson, Beaufort, Cabarrus, Carteret, Dare and Transylvania.

No reports received from Cherokee, Halifax, Harnett, Hertford, Jones, Lenoir, Mitchell, Montgomery, Rowan, Stokes.

Summary of Mortuary Report for June, 1903.

(TWENTY-FIVE TOWNS).

	White.	Col'd.	Total.
Aggregate population.....	82,150	58,850	141,000
Aggregate deaths..	119	130	249
Representing temporary annual death rate per 1,000	17.4	26.8	21.2
<i>Causes of Death.</i>			
Typhoid fever	2	3	5
Malarial fever	0	3	3
Whooping-cough..	1	10	11
Measles	1	0	1
Pneumonia.....	1	4	5
Consumption	10	17	27
Brain diseases	8	3	11
Heart diseases.....	8	9	17
Neurotic diseases...	5	6	11
Diarrhoeal diseases	19	14	33
All other diseases..	58	57	115
Accident	4	3	7
Suicide	2	1	3
	119	130	249
Deaths under five years.. ..	47	49	96
Still-born....	6	18	24

Mortuary Report for June, 1903.

TOWNS AND REPORTERS.	RACES.	POPULATION.		TEMPORARY ANNUAL DEATH RATE PER 1,000.		Typhoid Fever.	Scarlet Fever.	Malarial Fever.	Diphtheria.	Whooping-cough.	Measles.	Pneumonia.	Consumption.	Brain Diseases.	Heart Diseases.	Neurotic Diseases.	Diarrheal Diseases.	All Other Diseases.	Accident.	Suicide.	Violence.	TOTAL DEATHS.		Deaths under five years.	Still-born.
		By Races.	Total.	By Races.	Total.																	By Races.	By Towns.		
Charlotte	W.	11,000	18,300	10.9	15.2	..	..	..	..	..	..	1	..	..	..	..	..	9	..	..	10	13	3	3	..
Dr. F. O. Hawley.	C.	7,200		21.7		..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	33	27	5	3	..
Durham	W.	8,000		18.0	24.9	..	..	..	..	..	..	..	1	1	..	..	4	6	..	..	12	27	6	..	..
Dr. N. M. Johnson.	C.	5,000	13,000	36.0		..	..	..	..	..	..	..	2	..	..	..	10	1	..	..	15	8	1	..	..
Edenton	W.	1,200	3,000	10.0	4.0	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	1	..	..	..
Dr. T. J. Hoskins.	C.	1,800		0.0		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	6	..	..	..
Fayetteville	W.	2,500	4,800	14.4	22.5	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	9	..	4	..
Dr. A. S. Rose.	C.	2,300		31.3		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Goldsboro	W.	3,500	6,100	27.4	29.5	..	..	..	..	..	..	..	..	..	2	..	6	..	..	..	..	8	15	3	1
Robt. A. Creech, H. O.	C.	2,600		32.3		..	..	..	..	..	..	..	..	1	..	..	6	..	..	..	..	7	16	2	..
Greensboro	W.	6,100	10,100	13.8	19.0	..	..	..	..	..	..	..	3	..	..	..	1	6	..	..	..	9	11	..	..
Jno. S. Michaux, C. C.	C.	4,000		27.0		1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Henderson	W.	2,100	3,800	11.4	31.7	..	..	..	..	5	..	..	1	..	3	..	..	..	..	..	..	11	..	1	..
Dr. John H. Tucker.	C.	1,700		63.5		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Laurinburg	W.	900	1,500	13.3	16.0	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	1	2	1	..
Dr. A. W. Hamer.	C.	600		20.0		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lenoir	W.	1,200	1,500	0.0	0.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0	0	0	..	..
Dr. A. A. Kent.	C.	300		0.0		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0	0	..	..	..
Lexington	W.	800	1,300	30.0	18.5	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	2	..	..	..
J. H. Moyer, Mayor.	C.	500		0.0		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Monroe	W.	1,850	2,450	6.5	9.8	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	2	..	..
Dr. Jno. M. Blair.	C.	600		20.0		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Oxford	W.	1,200	2,450	0.0	14.7	..	..	..	..	..	..	..	1	..	..	..	..	..	2	..	..	3	..	..	..
Dr. S. D. Booth.	C.	1,250		28.8		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Raleigh	W.	8,000	13,800	15.0	13.9	..	..	..	1	..	..	1	2	..	..	3	3	2	..	..	..	10	16	3	2
T. P. Sale, Clerk B. H.	C.	5,800		12.4		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	6	3	..	..
Reidsville	W.	2,900	4,200	24.8	37.0	..	..	..	..	1	..	1	2	..	..	2	2	..	..	..	..	6	13	3	1
Jas. T. Smith, C. C.	C.	1,300		64.6		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	3	..	..	..
Rocky Mount	W.	1,600	3,100	15.0	15.8	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	2	4	..	..
Dr. G. L. Wimberley, Jr.	C.	1,500		16.0		..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Salem	W.	3,300	3,650	29.1	29.6	..	..	..	..	..	..	..	1	..	1	..	1	6	..	..	..	8	9	4	..
S. E. Butner, Mayor.	C.	350		34.3		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Salisbury	W.	3,900	6,400	9.2	13.1	..	..	..	..	..	1	..	..	..	..	1	1	..	..	..	..	3	7	2	2
Dr. H. T. Trantham.	C.	2,500		19.2		..	..	..	..	..	..	..	..	..	..	4	..	..	..	..	..	4	4	..	..
Southport	W.	900	1,400	13.3	17.1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	2	..	..
Dr. D. I. Watson.	C.	500		24.0		..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Tarboro	W.	2,000	2,500	0.0	0.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0	0	..	..
Dr. Wm. J. Thigpen.	C.	500		0.0		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wadesboro	W.	1,000	1,700	0.0	7.0	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	0	1	..	..
Dr. J. H. Bennett.	C.	700		17.1		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Washington	W.	3,900	5,500	20.0	21.8	1	..	..	..	..	..	..	1	1	..	1	3	..	..	..	..	5	10	3	..
Dr. D. T. Tayloe.	C.	2,500		24.0		..	..	..	..	..	..	..	..	..	1	1	1	..	..	..	..	5	..	2	..
Waynesville	W.	1,000	1,300	36.0	27.7	1	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	3	3	2	..
Dr. Thos. Stringfield.	C.	300		0.0		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0	..	..	..
Weldon	W.	700	1,450	0.0	16.5	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	0	2	..	..
J. T. Gooch, Mayor.	C.	750		32.0		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wilmington	W.	10,000	21,000	31.2	32.6	..	2	1	..	..	1	..	2	3	2	4	3	5	5	1	2	26	57	9	..
Dr. Chas. T. Harper.	C.	11,000		33.8		..	..	..	..	..	..	..	..	4	3	3	11	2	..	..	..	31	13	8	..
Wilson	W.	3,500	6,800	27.4	24.7	..	..	..	..	2	..	..	1	1	..	..	..	6	..	..	..	8	14	5	1
Dr. W. S. Anderson.	C.	3,300		21.8		..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	6	3	..	..

N. B.—The reporters for the cities and towns printed in **Black Type** have signed this certificate: "I hereby certify that this report gives the *whole* number of deaths occurring within the corporate limits during the above month."

County Superintendents of Health.

Alamance	Dr. H. R. Moore.	Jones.....	Dr. S. E. Koonce.
Alexander	Dr. C. J. Carson.	Lenoir	Dr. C. L. Pridgen.
Alleghany	Dr. Robt. Thompson.	Lincoln	Dr. T. F. Costner.
Anson	Dr. J. H. Bennett.	McDowell	Dr. G. S. Kirby.
Ashe	Dr. Manley Blevins.	Macon	Dr. F. L. Siler.
Beaufort	Dr. D. T. Tayloe.	Madison	Dr. Jas. K. Hardwicke.
Bertie	Dr. H. V. Dunstan.	Martin.....	Dr. W. H. Harrell.
Bladen.....	Dr. L. B. Evans.	Mecklenburg.....	Dr. C. S. McLaughlin
Brunswick	Dr. J. A. McNeill.	Mitchell.....	Dr. V. R. Butt.
Buncombe	Dr. E. B. Glenn.	Montgomery	Dr. M. P. Blair.
Burke.....	Dr. J. L. Laxton.	Moore.....	Dr. Gilbert McLeod
Cabarrus.....	Dr. R. S. Young.	Nash	Dr. J. P. Battle.
Caldwell	Dr. A. A. Kent.	New Hanover	Dr. W. D. McMillan.
Camden.....	Dr. J. L. Lister.	Northampton.....	Dr. H. W. Lewis.
Carteret	Dr. F. M. Clarke.	Onslow.....	Dr. E. L. Cox.
Caswell	Dr. S. A. Malloy.	Orange.....	Dr. D. C. Parris.
Catawba	Dr. Geo. H. West.	Pamlico.....	Dr. H. P. Underhill.
Chatham.....	Dr. T. A. Kirkman.	Pasquotank	Dr. J. B. Griggs.
Cherokee.....	Dr. Oscar Patton	Pender.....	Dr. R. J. Williams
Chowan.....	Dr. T. J. Hoskins.	Perquimans.....	Dr. C. C. Winslow
Clay	Dr. P. B. Killian.	Person	Dr. J. A. Wise.
Cleveland	Dr. B. H. Palmer.	Pitt.....	Dr. Zeno Brown.
Columbus.....	Dr. I. Jackson.	Polk	Dr. C. J. Kenworthy.
Craven.....	Dr. Joseph F. Rhem.	Randolph	Dr. W. J. Moore.
Cumberland.....	Dr. A. S. Rose.	Richmond.....	Dr. F. J. Garrett.
Currituck	Dr. H. M. Shaw.	Robeson	Dr. H. T. Pope.
Dare	Dr. W. B. Fearing.	Rockingham	Dr. Sam Ellington.
Davidson.....	Dr. Joel Hill.	Rowan.....	Dr. W. L. Crump.
Davie	Dr. M. D. Kimbrough.	Rutherford.....	Dr. T. B. Twitty.
Duplin	Dr. A. J. Jones.	Sampson	Dr. John A. Stevens.
Durham	Dr. N. M. Johnson.	Scotland	Dr. A. W. Hamer.
Edgecombe	Dr. W. J. Thigpen.	Stanly.....	Dr. V. A. Whitley
Forsyth.....	Dr. W. O. Spencer.	Stokes	Dr. W. V. McCanless.
Franklin	Dr. E. S. Foster.	Surry	Dr. John R. Woltz
Gaston.....	Dr. H. F. Glenn.	Swain.....	Dr. A. M. Bennet.
Gates.....	Dr. W. O. P. Lee.	Transylvania	Dr. C. W. Hunt.
Graham	Dr. V. J. Brown.	Tyrrell.....	
Granville	Dr. S. D. Booth.	Union	Dr. John M. Blair.
Greene.....	Dr. C. S. Maxwell.	Vance.....	Dr. H. H. Bass.
Guilford.....	Dr. Edmund Harrison.	Wake.....	Dr. J. J. L. McCullers.
Halifax	Dr. I. E. Green.	Warren.....	Dr. E. M. Gayle.
Harnett.....	Dr. O. L. Denning.	Washington	Dr. W. H. Ward.
Haywood	Dr. J. F. Abel.	Watauga.....	Dr. T. C. Blackburn.
Henderson	Dr. J. G. Waldrop.	Wayne.....	Dr. Williams Spicer.
Hertford	Dr. J. H. Mitchell.	Wilkes.....	Dr. W. P. Horton.
Hyde	Dr. E. H. Jones.	Wilson.....	Dr. W. S. Anderson.
Iredell	Dr. M. R. Adams.	Yadkin	Dr. T. R. Harding.
Jackson.....	Dr. R. L. Davis.	Yancey	Dr. J. L. Ray.
Johnston	Dr. Thel Hooks.		

BULLETIN

OF THE

North Carolina Board of Health.

Published Monthly at the Office of the Secretary of the Board, Raleigh, N. C.

GEO. G. THOMAS, M. D., *Pres.*, Wilmington.
S. WESTRAY BATTLE, M. D., Asheville.
HENRY W. LEWIS, M. D., Jackson.
J. L. NICHOLSON, M. D., Richlands.

W. P. IVEY, M. D., Lenoir.
FRANCIS DUFFY, M. D., New Bern.
W. H. WHITEHEAD, M. D., Rocky Mt.
J. L. LUDLOW, C. E., Winston.

RICHARD H. LEWIS, M. D., *Secretary and Treasurer*, Raleigh.

VOL. XVIII.

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No. 5.

Laboratory Notes.

The Biological Laboratory of the Board of Health is located on the third floor of the Agricultural Building in Raleigh. There are two large and one small rooms, furnished with water, gas and electricity. The rooms have all necessary shelving, tables and other conveniences. The equipment includes two hot-water incubators, hot-air and steam sterilizers, a centrifuge, small boilers, agate and glassware in sufficient quantity. There are also two microscopes, a microtome, embedding and dissecting apparatus and a full supply of stains and reagents.

The biological work of both the Board of Agriculture and the Board of Health is done in this laboratory. The special work of the Board of Health is described below.

* * *

WATER ANALYSIS.

The bacteriological examination of drinking water is the most important

of the different lines carried on. Usually about three hundred free analyses of waters are made each year for physicians who wish to determine the connection of the water supply with typhoid cases. This year, owing to an act of the recent Legislature, the laboratory is required to make a monthly analysis of each public water supply in the State. This means about doubling our last year's work in water analysis.

Water samples in this laboratory receive a three-fold examination—physical, chemical and bacteriological. The bacteriological work is always done in duplicate, with frequent blank or witness tests to assure accuracy. The number of germs per cubic centimeter (a centimeter is about 16 minims) is determined, and also the particular species. In special cases the species of algae and infusoria present are also determined.

Water samples for a complete report require a minimum of six days in the laboratory. A special report, based upon the physical and chemical results,

can usually be made within twenty-four hours, and this is sometimes done, but as a rule only the complete report is required.

* * *

SPUTUM EXAMINATIONS.

Next to water analysis, sputum examinations are most in demand. Unlike water work, sputum comes in about equal volume every month in the year. This class of samples is the most dangerous that comes to the laboratory. The United States postal authorities have promulgated special and very reasonable rules for transmitting sputum samples through the mails. Such samples are required to be sent in glass jars of an approved pattern, and these must be enclosed within two water-tight metallic mailing cases. There is a heavy fine provided for sending such dangerous material through the mails in any but the official mailing cases.

Human tuberculosis, "the great white plague," seems to have a firm foothold in this State. The great majority of the samples sent to this laboratory contain *Bacillus tuberculosis*. Sputum examinations are made directly with the microscope, after fixing and staining a portion of the sampled sputum on a microscopical cover glass. The examination takes about fifteen minutes, and a report is usually made within twenty-four hours after the sample is received.

* * *

MILK EXAMINATIONS.

In the spring of 1902 it was determined to find out whether any of our cities and larger towns were being furnished with tubercle-infected milk. About one hundred samples of milk from various towns and cities were care-

fully examined for the bacillus of tuberculosis, but in only one case was the bacillus found, and a second sample from same dairy failed to show the germ, indicating some chance contamination. The apparent freedom of our milk supplies from tubercle contamination is very gratifying and is in great contrast with the statistics of many European cities, which show a considerable contamination.

* * *

DIPHThERIC EXUDATES.

We fear that many of our physicians do not appreciate fully the importance of a prompt diagnosis and the very great value of diphtheria antitoxin. We commend this matter to their earnest consideration.

During the cooler months of the year, or from October 1st to May 1st, there is a regular and considerable demand upon the laboratory for examinations of exudates from suspected cases of diphtheria. The value of anti-diphtheritic serum, when promptly administered in cases of diphtheria, makes bacteriological diagnosis of special value in this disease. In some other States the demand for diphtheritic work is, in proportion to the population, far more extensive than it is with us.

Diphtheritic exudates are collected upon swabs of sterilized cotton specially prepared in the laboratory. A supply of these swabs were sent out to County Superintendents of Health in the spring of 1902, but very few of these have ever been returned. Any regular practising physician can secure three outfits by applying to the Secretary of the Board of Health and enclosing four cents postage on each outfit.

In the laboratory diphtheritic exu-

dates are transferred from the collecting swab to a tube of coagulated blood serum, and incubated for twelve to twenty-four hours at 37 degrees C. A portion of the growth is then examined, after being fixed and stained on a microscopical cover glass. The bacillus shows a very characteristic dumb-bell form when double-stained. Reports on exudates can, as a rule, be made in twenty-four hours or less. When the bacillus is found, the report is always telegraphed when the sender can be reached by telegraph.

* * *

BLOOD EXAMINATIONS.

So far, comparatively little demand has been made on the laboratory for the Widal test for typhoid. This test is very troublesome to make, as the culture to be clumped by the serum or blood from suspected case must be *fresh* and *virulent*, which condition cannot as a rule be maintained *in vitro* longer than three or four months. A new culture must then be obtained from the corpse of a person dead of typhoid.

Of the few samples reaching the laboratory, still fewer were properly taken or prepared. The Widal test is *quantitative*, and a definite quantity of blood must be diluted with a certain quantity of water. Full and explicit directions for taking the sample are furnished with each outfit sent out from the laboratory. There is really no excuse for sending samples which cannot be used for the purpose intended.

We receive a few samples of blood for examination for the parasites of malarial fevers, and these samples are sometimes satisfactory, but more often the physician, in defiance of the rule, puts the cover glass down upon the

fresh, undried blood film, ruining the sample for subsequent microscopic examination.

* * *

FAECES EXAMINATIONS.

The recent development of interest in the "Hook-worm" (*Uncinaria Americana*), or, as the newspapers call it, "the germ of laziness," has induced us to add faeces examination to our regular work. This work is undertaken to demonstrate the presence of the eggs of hook-worms, pin-worms or tape-worms in the faeces. There is reason for thinking that the presence of the hook-worm in the intestines of children, young persons especially, living in the rural districts of the State, especially in the sandy regions, is much more prevalent than is supposed, and is of more importance, from both a medical and social standpoint, than is generally credited. It is desired and hoped that the physicians of the State will, during the coming fall and winter, co-operate with the Board of Health in the endeavor to discover just how widespread and injurious this parasite is in North Carolina. Sampling outfits will be furnished upon application, enclosing four cents for postage on each outfit. Work of this character can be most conveniently carried on during the cooler months of the year.

* * *

GENERAL REMARKS.

In every case, without exception, samples for analysis or examination in this laboratory *must* be sent in the vessels and cases sterilized and specially prepared in the laboratory. We do not want samples put up in any other way. The work of a hygienic biologist is very

laborious and expensive. Unless sterile containers and the necessary precautions to avoid chance contaminations are attended to from the start, the results of the work must go for naught. The Board has provided an abundant supply of approved vessels and mailing cases, and these can be had on application by those entitled to them. There is, therefore, no excuse for sending samples in picked-up bottles. Physicians who violate this rule may expect to have their samples rejected.

We must insist upon exact compliance with the instructions and directions for taking and shipping samples.

* * *

The free analyses made in the laboratory of the Board of Health are intended specially for the accommodation of regular practising physicians, and more especially for those in country districts. Proprietary sanatoria and hospitals will not be given free work of this character, but, so far as our facilities permit, work will be done for sanatoria and hospitals on payment of a small fee for each case.

Physicians who send samples for free analysis are expected to exercise due care that the privilege is not abused. Especially is this to be kept in mind in regard to water samples. It is, for example, not proper for a physician to send a sample of water from a new well, or, in fact, from any well, except when he has STRONG reasons for believing the well is polluted or has caused typhoid fever.

When citizens or corporations owning wells desire, out of curiosity or abundant caution, to examine the quality of the water, this will be done in the laboratory of the Board of Health only on

payment of a fee of \$5 for each analysis. The fee must accompany the application.

* * *

The Board of Health has at present only one man in the laboratory, and a portion of his time is given to biological work for the Board of Agriculture. In order to secure the greatest possible result from present facilities, it is necessary that the rules established by the Board for conducting the work of the laboratory be rigidly enforced. A copy of these rules is sent with each sampling outfit.

The report of the Biologist is always made in duplicate, one copy being filed in the office of the Secretary of the Board of Health. These reports are intended to be plain and self-explanatory. Physicians are requested by the Biologist, on account of the press of work upon him, to refrain from writing long letters and from asking for any more information than is contained in the report. Address correspondence to the Secretary of the Board.

Physicians will please preserve this for reference when wishing information about the laboratory and its work.

The Fly as a Carrier of Typhoid Fever.

The epidemic of typhoid fever in Chicago during July, August, September and October of 1902 was most severe in the Nineteenth ward, which, with one-thirty-sixth of the city's population, had over one-seventh of all the deaths from this disease. The concentration of the epidemic in this locality could not be explained by contamination of the drinking water or of food, or on the ground of ignorance and poverty of the

inhabitants, for the Nineteenth ward does not differ in these respects from several other parts of the city. An investigation of the sanitary conditions of this region showed that many of the street sewers were too small, and that only 48 per cent. of the houses had sanitary plumbing. Of the remaining 52 per cent., 7 per cent. had defective plumbing, 22 per cent. water-closets with intermittent water supply, 11 per cent. had privies with no sewer connection. The streets in which the sanitary arrangements were worst had the largest number of cases of typhoid fever during this epidemic, irrespective of the poverty of the inhabitants.

Flies caught in two undrained privies, on the fences of two yards, on the walls of two houses, and in the room of a typhoid patient were used to inoculate eighteen tubes, and from five of these tubes the typhoid bacillus was isolated. When the discharges from typhoid patients are left exposed in privies or yards, flies may be an important agent in the dissemination of the typhoid infection.—Alice Hamilton (*Journal of the American Medical Association*, February 28, 1903).—*Bulletin Delaware Board of Health for July*.

Consumption is Chiefly Caused by the Filthy Habit of Spitting.

The following circular regarding consumption is published in English, German, Hebrew and Italian by the New York City Department of Health:—

Consumption is a disease of the lungs, which is taken from others, and is not simply caused by colds, although a cold may make it easier to take the disease. It is caused by very minute germs, which usually enter the body with the

air breathed. The matter which consumptives cough or spit up contains these germs in great numbers—frequently millions are discharged in a single day. This matter, spit upon the floor, wall or elsewhere, dries and is apt to become powdered and float in the air as dust. The dust contains the germs, and thus they enter the body with the air breathed. This dust is especially likely to be dangerous within doors. The breath of a consumptive does not contain the germs and will not produce the disease. A well person catches the disease from a consumptive only by in some way taking in the matter coughed up by the consumptive.

Consumption can often be cured if its nature be recognized early and if proper means be taken for its treatment. In a majority of cases it is not a fatal disease.

It is not dangerous to live with a consumptive if the matter coughed up by him be promptly destroyed. This matter should not be spit upon the floor, carpet, stove, wall or sidewalk, but always, if possible, in a cup kept for that purpose. The cup should contain water, so that the matter will not dry, or, better, carbolic acid in a 5 per cent. watery solution (six teaspoonfuls in a pint of water). This solution kills the germs. The cup should be emptied into the water-closet at least twice a day, and carefully washed with boiling water.

Great care should be taken by consumptives to prevent their hands, face and clothing from becoming soiled with the matter coughed up. If they do become thus soiled, they should be at once washed with soap and hot water. Men with consumption should wear no beards at all, or only closely cut mustaches. When consumptives are away from

home, the matter coughed up should be received in a pocket flask made for this purpose. If handkerchiefs be used (worthless cloths, which can be at once burned, are far better), they should be boiled at least half an hour by themselves before being washed. When coughing or sneezing, small particles of spittle containing germs are expelled, so that consumptives should always hold a handkerchief or cloth before the mouth during these acts; otherwise the use of cloths and handkerchiefs to receive the matter coughed up should be avoided as much as possible, because it readily dries on these and becomes separated and scattered into the air. Hence, when possible, the matter should be received into cups or flasks. Paper cups are better than ordinary cups, as the former, with their contents, may be burned after being used. A pocket flask of glass, metal or paste-board is also a most convenient receptacle to spit in when away from home. Cheap and convenient forms of flasks and cups may be purchased at many drug stores. Patients too weak to use a cup should use moist rags, which should at once be burned. If cloths are used, they should not be carried loose in the pocket, but in a water-proof receptacle (tobacco pouch), which should be frequently boiled. A consumptive should never swallow his expectoration.

A consumptive should have his own bed and, if possible, his own room. The room should always have an abundance of fresh air—the window should be open day and night. The patient's soiled wash clothes and bed linen should be handled as little as possible when dry, but should be placed in water until ready for washing.

If the matter coughed up be rendered harmless, a consumptive may frequently

not only do his usual work without giving the disease to others, but may also thus improve his own condition and increase his chances of getting well.

Whenever a person is thought to be suffering from consumption, the Department of Health should be notified and a medical inspector will call and examine the person to see if he has consumption, providing he has no physician, and then, if necessary, will give proper directions as to treatment.

Rooms which have been occupied by consumptives should be thoroughly cleaned, scrubbed, whitewashed, painted or papered before they are again occupied. Carpets, rugs, bedding, etc., from rooms which have been occupied by consumptives should be disinfected. Such articles, if the Department of Health be notified, will be sent for, disinfected and returned to the owner free of charge, or, if he so desire, they will be destroyed.

When consumptives move they should notify the Department of Health.

Consumptives are warned against the many widely advertised cures, specifics and special methods of treatment of consumption. No cure can be expected from any kind of medicine or method except the regularly accepted treatment, which depends upon pure air, an out-of-door life and nourishing food.

Persons desiring additional information or assistance should apply to the Department of Health, Fifty-fifth street and Sixth avenue, New York, or the Charity Organization Society, No. 105 East Twenty-second street.

By order of the Board of Health:

ERNEST J. LEDERLE, PH. D.,

President.

HERMAN M. BIGGS, M. D.,

Medical Officer.

—Ibid.

The Domestic Filter.

BY ELMER G. HORTON, B. S.,

Bacteriologist to the Ohio State Board of Health.

At the outset let me ask that domestic filters and their workings be not confounded with those larger filters differently constructed and used by municipalities, institutions and sometimes buildings. In our use of the expression "domestic filters" we refer to that class so commonly employed for household use and either attached to the tap or separated from it.

Of the various requirements that might be named as desirable for a domestic filter to possess there are five we will all admit are essential, viz.:

1. The filter must deliver a filtrate free from turbidity or cloudiness.
2. The rate of filtration should be fairly rapid.
3. The filter should be simple in construction and easy to clean.
4. Neither the filter nor the filtering medium shall impart to the effluent any detrimental influence.
5. The filter must remove the bacteria from the water.

There is little trouble in securing an effluent of good appearance for the filter that fails to yield a clear water, fails to find a purchaser, and the manufacturer knows better than to put such an one on the market.

If the rate of filtration is not moderately fast, the consumer will not buy, or, having unwittingly bought, soon discards the filter because he cannot wait for the little water he wants. The maker also realizes this fact, and he slightens efficiency in order to gain a more rapid flow. The filtering material is made coarser or more porous, and, with

the resistance decreased, the water passes through more readily, and so do the bacteria. Hence it is that rate and efficiency are opposed to each other, and usually the ability of the filter to remove bacteria is sacrificed for an increased amount of water to be delivered. Size bears some relation to work. The small tap filter cannot do a large amount of work and do it well; therefore it is inefficient or else is slow and soon clogs.

No filter will continuously yield a perfect effluent without having to be cleaned sooner or later. The simpler the cleaning process the more often will it be performed. In addition a filter of complex design causes trouble when it gets out of order.

Some filters are closed, *i. e.*, cemented with sponge or wool or other perishable filtering medium enclosed, and the decomposition of this imparts to the effluent objectionable features. It should also be constantly borne in mind that whatever a filter takes out of the water remains in the filter until removed by cleansing; and if that cleansing be delayed beyond a normal period, the filter is inclined to dispose of the accumulated filth and by-products by way of the passing water. Consequently we must expect an unclean or foul filter to yield an effluent of like character, although that effluent may appear clear.

The fifth requirement—the removal of bacteria—is the most important of any; for, after all, the more harmful things in a water are not so much the easily discernible ones—mud, floating vegetation, iron, odors, etc.—but the invisible, the living micro-organisms, and especially those forms capable of producing disease in man. It is true, and greatly to be regretted, that clearness is the criterion by which the average citizen

measures the efficiency of his filter, but it is also true, and let it never be forgotten, that the clearness of a water is not an absolute guarantee of its purity. This bottle of water which is passed around is clear enough, and no doubt looks good enough to drink, but it actually contains not thousands but millions of typhoid fever bacilli.

Although the bacterial requirement is the paramount consideration, it is the hardest one for the consumer to gauge. He can measure the clearness with his eye; the addition of something to the water by decomposition inside the filter may often be detected by the nose; the rate of flow in some filters may be gauged by one's patience or impatience; the complexity of construction may be determined in a repaired filter by the draft on one's purse; but how can the ordinary citizen measure a deficient removal of bacteria? Some of our medical friends may reply: "Measure it by the effect in the alimentary canal." Yes, that is exactly what is being done by too many a typhoid-stricken patient, and, in view of the facts and figures so well given in the preceding paper by Dr. Probst, we cannot count this a profitable manner of measuring the bacterial efficiency of any filter. Bacteriologists have another method for this determination. Allow me to quote you a few illustrations to edify if not to supply a pleasing sensation the next time you drink from a domestic filter. A sample of filtered water from the filter in the dining-room of a large boarding-house was examined and found to contain 20,000 bacteria per cc. On another occasion, at the same place, the filtered water was found to contain five times as many bacteria as the unfiltered water. A sample from a filter in one of the halls of the Board of Trade

building a few years ago contained 2,600 bacteria per cc., or a quarter of a million in a moderate drink. Recently samples of filtered and unfiltered water were taken from a filter in one of the offices at the State House. The 2,200 bacteria per cc. of the untreated water had increased to 14,000 in passing through their "germ-proof" filter. Such increases in the number of bacteria in a filter poorly cared for, or perhaps with defective fittings, is not so surprising when one stops to think. Organic matter collects in the filter and serves as food, and there is developed a breeding nest for the bacteria.

The work of Woodhead and Wood showed that with a certain domestic filter, purposely infected with cholera germs and then supplied with a relatively pure tap water, cholera organisms continued in the effluent for thirty-two days, thus demonstrating the danger of extending the opportunity for infection over a long period because of the use of a defective piece of apparatus misnamed a filter.

Let it be said that not all domestic filters are bad, for Woodhead and Wood, in their excellent investigation of the bacterial efficiency of domestic filters, reported that three out of twenty-one leading designs on the market were effective in removing bacteria, but the other eighteen were not.

What, then, is the true position of the domestic filter? Some few are effective and safe, especially those constructed after the type of the Chamberland-Pasteur or the Berkefeld, but they must be perfect in make, with proper fittings, and must be carefully and systematically cleaned or, better, sterilized. However, the larger number of domestic filters must be looked upon as a delusion and a snare. They do act as strain-

ers, and so did the flannel bag of our boyhood days, and, like it, they remove the visible impurities, such as fragments of vegetation, iron deposits, mud, fish scales, worms, and with us the coarser reminiscences of Arlington, the quarries, the State Hospital for the Insane, the Girls' Industrial School, and other sources contributing to the water supply of Columbus via the Scioto river, or, on the other hand, of St. Mary's of the Springs Seminary via Alum creek. But these so-called filters do not in general remove the minute and unwelcome microbe, and therein lies the greatest danger. The uninformed user innocently thinks his clarified water is truly filtered, and, heeding only the "all-is-well" of his misleading filter sentinel, goes on to soon find himself "all sick." There is legislation against getting one's money under false pretences, but none against this method of taking your health from you under false pretensions.

Lastly, in addition to being an evil deceiver, the ordinary domestic filter stands as an obstacle to public improvement. The wealthier individual thinks it is cheaper to provide his family with a household filter rather than to bear his share of the burden in securing a properly purified public supply, and his neighbor, hearing him talk of the great expense of securing a new supply when the old one is good enough for him (because he filters it privately), is prone, without much thought, to take the same position concerning the public improvement, and the new and pure supply is opposed. Have you ever thought what effect it would have in creating a favorable sentiment for a pure and wholesome supply of water for Columbus if every worthless or defective domestic filter could be thrown out of

the city? If not, may I not ask you to consider the thought and gain some realization of its importance in its relation to the future welfare of our city?—*Ohio Sanitary Bulletin*.

Review of Diseases for July, 1903.

EIGHTY-SIX COUNTIES REPORTING.

Ninety-six counties have Superintendents of Health.

Except in the case of the more contagious and dangerous diseases the Superintendent has, as a rule, to rely upon his own information alone, since few physicians can be induced to report cases of non-contagious diseases to him.

Where the number of cases is not given, or the prevalence of a disease otherwise indicated, its mere presence in the county is to be understood as reported.

For the month of July the following diseases have been reported from the counties named:

MEASLES.—Ashe, 12 cases; Guilford, 1; Perquimans, 1; Rockingham; Wake, 6; Watauga, a few—6 counties.

WHOOPING-COUGH.—Beaufort, 20; Bladen, a few; Burke, a few; Cabarrus, 2; Caldwell, several; Caswell, several; Chatham, several; Chowan, several; Craven, several; Cumberland, several; Durham, many; Edgecombe, a few; Forsyth, many; Gaston, a few; Granville, 12; Greene, 18; Guilford, 2; Henderson, many; Iredell, 3; Johnston, several; Lenoir, several; Lincoln, 6; Martin, 10; New Hanover, a few; Onslow, 10; Perquimans, 4; Pitt, 14; Polk, many; Rockingham; Sampson, many; Vance, epidemic; Wake, 26; Washington, a few; Watauga, a few; Wayne, a few—35 counties.

SCARLET FEVER.—Buncombe, 2; Caswell, several; Gaston, a few; Henderson, 1; Perquimans, 1; Rowan, 1; Stanly, 2—7, counties.

DIPHTHERIA.—Gaston, a few; Haywood, 1; Onslow, 5; Robeson, 6; Rutherford, 4—5 counties.

TYPHOID FEVER.—Alamance, 40; Alexander, in all parts; Alleghany; Anson, a few; Ashe, 18; Beaufort, 5; Bertie, 1; Brunswick, 2; Burke, 12; Cabarrus, 4; Caldwell, 12; Camden, 1; Carteret, 4; Chatham, several; Chowan, 3; Clay, several; Cleveland, several; Columbus, 4; Craven, 3; Cumberland; Currituck, several; Dare, 3; Davidson; Davie; Duplin, 4; Durham, 2; Edgecombe, a few; Forsyth, a few; Gaston, a few; Gates, 6; Granville, 3; Greene, 29; Guilford; Haywood, 2; Henderson, 10; Iredell, 24; Jackson, 6; Johnston, several; Lenoir, several; Lincoln, 1; McDowell, 4; Mecklenburg; Moore, 5; Nash, 5; New Hanover, 5; Northampton, many; Onslow, 6; Orange, 4; Pamlico, 2; Perquimans, 2; Person; Pitt, 6; Polk, 3; Randolph, in all parts; Richmond, 6 or 8; Robeson, many; Rockingham, several; Rowan, 10; Rutherford, 8; Sampson, a few; Scotland, several; Stanly, 2; Surry, 6; Union, 30; Vance; Wake, 34; Washington, 10; Watauga, several; Wayne, several; Wilkes, 8; Yadkin, 50; Yancey, a few—72 counties.

MALARIAL FEVER.—Bertie; Caswell; Columbus; Craven; Currituck, in all parts; Gates, 3; Greene; Hyde, in all parts; Iredell; Lenoir, in all parts; Martin; Mecklenburg; New Hanover; Onslow, in all parts; Pamlico, in all parts; Pender, in all parts; Perquimans, in all parts; Person; Pitt; Randolph, in all parts; Rowan, in all parts; Scotland; Vance; Washington; Wayne—25 counties.

MALARIAL FEVER, PERNICIOUS.—Gates, 1; Greene, 2; Iredell; Mecklenburg; New Hanover, 1—5 counties.

MALARIAL FEVER, HEMORRHAGIC.—Hyde, 2; Martin, 2; Pitt, 1—3 counties.

BOWEL DISEASES.—Brunswick; Burke; Columbus; Currituck, in all parts; Gates; Graham, in all parts; Henderson, in all parts; Person; Rockingham, in all parts; Surry; Wayne—11 counties.

MENINGITIS.—Wayne, several.

MUMPS.—Henderson, in all parts; Cumberland; Dare; Sampson, in all parts—4 counties.

ROSEOLA.—Caswell.

TETANUS.—Wilkes, 1.

VARICELLA.—Cumberland.

SMALL-POX.—Ashe, 1; Bertie, 1; Buncombe, 12; Burke, 2; Catawba, 1; Cleveland, 4; Columbus, several; Durham, 10, none at date of report, August 2; Gaston, 4; New Hanover, 1; Pender, 1; Polk, 1; Randolph, 1; Rockingham, 2; Rutherford, 5; Stanly, 4; Surry, 18; Wilson, 2; Yadkin, 26—19 counties.

CHOLERA, IN FOWLS.—Gates; Sampson.

CHOLERA, IN HOGS.—Bertie; Duplin; Franklin; Gates; Graham; Greene; Northampton; Sampson; Wake—9 counties.

No diseases reported from Franklin, Macon, Pasquotank, Transylvania and Warren.

No reports received from Cherokee, Halifax, Harnett, Hertford, Jones, Madison, Mitchell, Montgomery, Stokes and Swain.

Summary of Mortuary Reports for July, 1903.

(TWENTY-SIX TOWNS).

	White.	Col'd.	Total.
Aggregate population.....	88,950	64,250	153,200
Aggregate deaths..	126	150	276
Representing temporary annual death rate per 1,000.....	17.0	28.0	21.6
<i>Causes of Death.</i>			
Typhoid fever.....	11	8	19
Malarial fever.....	3	6	9
Diphtheria.....	0	1	1
Whooping-cough..	2	6	8
Measles.....	1	3	4
Pneumonia.....	2	2	4
Consumption.....	16	18	34
Brain diseases.....	4	8	12
Heart diseases.....	6	9	15
Neurotic diseases..	0	6	6
Diarrhœal diseases	22	17	39
All other diseases..	49	62	111
Accident.....	7	4	11
Suicide.....	3	0	3
	126	150	276
Deaths under five years.....	44	46	90
Still-born....	9	10	19

Mortuary Report for July, 1903.

TOWNS AND REPORTERS.	RACES.	POPULATION.		TEMPORARY ANNUAL DEATH RATE PER 1,000.																TOTAL DEATHS.		Deaths under five years.	Still-born.		
		By Races.	Total.	By Races.	Total.	Typhoid Fever.	Scarlet Fever.	Malarial Fever.	Diphtheria.	Whooping-cough.	Measles.	Pneumonia.	Consumption.	Brain Diseases.	Heart Diseases.	Neurotic Diseases.	Diarrhoeal Diseases.	All Other Diseases.	Accident.	Suicide.	Violence.			By Races.	By Towns.
Charlotte	W.	11,000		25.1		1																23	36	12	3
Dr. F. O. Hawley.	C.	7,200	18,200	21.7	23.7	1	1															13	31	7	1
Durham	W.	8,000		21.0		1						1					5	5	1			14	31	8	
Dr. N. M. Johnson.	C.	5,000	13,000	40.8	28.6	1			1			1		3		1	9	1				17	17	8	
Edenton	W.	1,200		20.0						1		1										2	4	1	1
Dr. T. J. Hoskins.	C.	1,800	3,000	13.3	16.0																	2	4	1	1
Fayetteville	W.	2,500		0.0																		0	4		
Dr. A. S. Rose.	C.	2,300	4,800	20.8	10.0	1										2		1				4	4		
Goldsboro	W.	3,500		13.7									1		1		1	1				4	10	1	
Robt. A. Creech, H. O.	C.	2,600	6,100	27.7	19.7	1						1			1		1	1				6	10	2	
Greensboro	W.	6,100		11.8		2						1			1		3	5	1			6	22	3	
Jno. S. Michaux, C. C.	C.	4,000	10,100	48.0	26.1			1	1			1	4	1		2	1	1				16	22	9	
Henderson	W.	2,100		20.6																1		3	10		1
Dr. John H. Tucker.	C.	1,700	3,800	49.4	31.6						3			1	1	1	1					3	10		1
Laurinburg	W.	900		13.3										1								1	2		
G. D. Everington, H. O.	C.	600	1,500	20.6	16.0												1					1	2		
Lenoir	W.	1,200		10.0		1																0	1		
Dr. A. A. Kent.	C.	300	1,500	0.0	8.0																	0	1		
Lexington	W.	800		0.0																		0	0		
J. H. Moyer, Mayor.	C.	500	1,300	0.0	0.0																	0	0		
Marion	W.	800		30.0											1					1		2	3		
Dr. Grey S. Kirby.	C.	400	1,200	30.0	30.0	1																1	3		
Monroe	W.	1,850		6.5		1																1	1		
Dr. Jno. M. Blair.	C.	600	2,450	0.0	4.9																	0	1		
Oxford	W.	1,200		0.0																		0	1		1
Dr. S. D. Booth.	C.	1,250	2,450	9.6	4.9																	0	1		1
Raleigh	W.	8,000		27.0		1			1				7	1			5	2	1			18	30	4	3
T. P. Sale, Clerk B. H.	C.	5,800	13,800	24.8	26.1								2	1		1		8				12	30	5	2
Reidsville	W.	2,900		8.3														2				2	5	1	1
Jas. T. Smith, C. C.	C.	1,300	4,200	27.7	14.3								1				1	1				3	5	1	1
Rocky Mount	W.	1,600		30.0										1			2	1				4	5		
Dr. G. L. Wimberley, Jr.	C.	1,500	3,100	8.0	19.3												1					1	5		
Salem	W.	3,300		10.9									2					1				3	3	1	
F. E. Keehn, Sup. H.	C.	350	3,650	0.0	9.9																	0	3		
Salisbury	W.	3,900		24.6								1					4	3				8	11	4	
Dr. H. T. Trantham.	C.	2,500	6,400	14.4	20.6							1					2					3	11	3	
Southport	W.	900		13.3												1						1	3	1	
Dr. D. I. Watson.	C.	500	1,400	48.0	25.7								2									2	3		
Tarboro	W.	2,000		0.0																		0	2		
Dr. Wm. J. Thigpen.	C.	500	2,500	48.0	9.6								1					1				0	2		
Wadesboro	W.	1,000		12.0														1				1	2		
Dr. J. H. Bennett.	C.	700	1,700	17.1	14.1												1					1	2		
Washington	W.	3,000		12.0		2													1			3	11		
Dr. D. T. Tayloe.	C.	2,500	5,500	38.4	24.0	2	1	1									1	3				8	11		
Waynesville	W.	1,000		36.0													2	1				3	3	2	
Dr. Thos. Stringfield.	C.	300	1,300	0.0	27.7																	0	3		
Weldon	W.	700		0.0																		0	6		
J. T. Gooch, Mayor.	C.	750	1,450	96.0	49.6				1									4	1			6	6	2	
Wilmington	W.	10,000		24.0		2	3					3	1	1		1	8	1				20	52	7	
Dr. Chas. T. Harper.	C.	11,000	21,000	34.9	29.7	1	3	2				1	5	2	2		2	13	1			32	52	10	4
Wilson	W.	3,500		6.9															2			5	7		
Dr. W. S. Anderson.	C.	3,300	6,800	18.2	12.3			1									3					5	7		
Winston	W.	6,000		8.0								3							1			4	11		1
Dr. J. L. Hanes.	C.	5,000	11,000	16.8	12.0				1				2		1		1	2				7	11	3	

N. B.—The reporters for the cities and towns printed in **Black Type** have signed this certificate: "I hereby certify that this report gives the *whole* number of deaths occurring within the corporate limits during the above month."

* In addition there were two deaths from tuberculosis of non-residents; one white, one colored.

County Superintendents of Health.

Alamance	Dr. H. R. Moore.	Jones.....	Dr. S. E. Koonce.
Alexander	Dr. C. J. Carson.	Lenoir	Dr. C. L. Pridgen.
Alleghany	Dr. Robt. Thompson.	Lincoln	Dr. T. F. Costner.
Anson	Dr. J. H. Bennett.	McDowell	Dr. G. S. Kirby.
Ashe.....	Dr. Manley Blevins.	Macon	Dr. F. L. Siler.
Beaufort	Dr. D. T. Tayloe.	Madison	Dr. W. J. Weaver.
Bertie	Dr. H. V. Dunstan.	Martin.....	Dr. W. H. Harrell.
Bladen.....	Dr. L. B. Evans.	Mecklenburg.....	Dr. C. S. McLaughlin
Brunswick	Dr. J. A. McNeill.	Mitchell.....	Dr. V. R. Butt.
Buncombe	Dr. D. E. Sevier.	Montgomery	Dr. M. P. Blair.
Burke.....	Dr. J. L. Laxton.	Moore.....	Dr. Gilbert McLeod.
Cabarrus.....	Dr. R. S. Young.	Nash.....	Dr. J. P. Battle.
Caldwell	Dr. A. A. Kent.	New Hanover.....	Dr. W. D. McMillan
Camden.....	Dr. J. L. Lister.	Northampton.....	Dr. H. W. Lewis.
Carteret	Dr. F. M. Clarke.	Onslow.....	Dr. E. L. Cox.
Caswell	Dr. S. A. Malloy.	Orange.....	Dr. D. C. Parris.
Catawba	Dr. Geo. H. West.	Pamlico.....	Dr. H. P. Underhill.
Chatham.....	Dr. T. A. Kirkman.	Pasquotank	Dr. J. B. Griggs.
Cherokee.....	Dr. Oscar Patton	Pender.....	Dr. R. J. Williams
Chowan.....	Dr. T. J. Hoskins.	Perquimans.....	Dr. C. C. Winslow
Clay.....	Dr. P. B. Killian.	Person.....	Dr. J. A. Wise.
Cleveland	Dr. B. H. Palmer.	Pitt.....	Dr. Zeno Brown.
Columbus.....	Dr. I. Jackson.	Polk.....	Dr. C. J. Kenworthy.
Craven.....	Dr. Joseph F. Rhem.	Randolph	Dr. W. J. Moore.
Cumberland.....	Dr. A. S. Rose.	Richmond.....	Dr. F. J. Garrett.
Currituck	Dr. H. M. Shaw.	Robeson.....	Dr. H. T. Pope.
Dare	Dr. W. B. Fearing.	Rockingham	Dr. Sam Ellington.
Davidson.....	Dr. Joel Hill.	Rowan.....	Dr. W. L. Crump.
Davie.....	Dr. M. D. Kimbrough.	Rutherford.....	Dr. T. B. Twitty.
Duplin	Dr. A. J. Jones.	Sampson.....	Dr. John A. Stevens.
Durham	Dr. N. M. Johnson.	Scotland	Dr. A. W. Hamer.
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Granville	Dr. S. D. Booth.	Union	Dr. John M. Blair.
Greene.....	Dr. C. S. Maxwell.	Vance.....	Dr. H. H. Bass.
Guilford.....	Dr. Edmund Harrison.	Wake.....	Dr. J. J. L. McCullers.
Halifax	Dr. I. E. Green.	Warren.....	Dr. E. M. Gayle.
Harnett.....	Dr. O. L. Denning.	Washington	Dr. W. H. Ward.
Haywood	Dr. J. F. Abel.	Watauga.....	Dr. C. W. Phipps.
Henderson	Dr. J. G. Waldrop.	Wayne.....	Dr. Williams Spicer.
Hertford	Dr. J. H. Mitchell.	Wilkes.....	Dr. W. P. Horton.
Hyde.....	Dr. E. H. Jones.	Wilson.....	Dr. W. S. Anderson.
Iredell	Dr. M. R. Adams.	Yadkin	Dr. T. R. Harding.
Jackson.....	Dr. R. L. Davis.	Yancey	Dr. J. L. Ray.
Johnston	Dr. Thel Hooks.		

BULLETIN

OF THE

North Carolina Board of Health.

Published Monthly at the Office of the Secretary of the Board, Raleigh, N. C.

GEO. G. THOMAS, M. D., *Pres.*, Wilmington.
S. WESTRAY BATTLE, M. D., Asheville.
HENRY W. LEWIS, M. D., Jackson.
J. L. NICHOLSON, M. D., Richlands.

W. P. IVEY, M. D., Lenoir.
FRANCIS DUFFY, M. D., New Bern.
W. H. WHITEHEAD, M. D., Rocky Mt.
J. L. LUDLOW, C. E., Winston.

RICHARD H. LEWIS, M. D., *Secretary and Treasurer*, Raleigh.

VOL. XVIII.

SEPTEMBER, 1903.

No. 6.

Diphtheria.

The very marked increase in the prevalence of diphtheria during the past month suggests the advisability of calling renewed attention to its dangers and its prevention.

The reports from eighty-six counties for the month of July showed its presence in five counties, while the reports from eighty-four counties for August name it among the diseases prevailing in eighteen counties. Excluding the reports which merely mention its presence in a general way or in an indefinite way as "a few," the number of cases for July was sixteen, for August seventy-two.

This is an increase of 400 per cent., roughly speaking, both as to area infected and number of cases. As diphtheria is an infectious and therefore a preventable disease, and as it is, moreover, in many outbreaks an extremely fatal malady, it behooves us to exercise due diligence and take every precaution

to check its spread. The burden and responsibility of this work lie upon the following classes: Householders, family physicians, health officers, mayors, school committees of public schools, superintendents of graded schools and the principals of private schools. As a reminder of their duties in the premises, we append below certain extracts from the act relating to the Board of Health in which this duty is set forth specifically, and in detail, and we earnestly hope that they will read them carefully, lay them to heart and do their duty in this matter promptly and thoroughly.

The *family physician* is, in the nature of the case, more responsible than any one else. He it is who first discovers the disease and can therefore take *immediate* action in the matter of the isolation of the patient and the proper care and disinfection of all articles soiled with the discharges from throat and nose. While not officially so, the family physician is unquestionably morally the health officer of every family

he attends, and it is impossible for him to ignore or evade this responsibility. It is true that it can be in part shifted to the health officer, who is required by the law to see to the proper quarantine and isolation of these cases and to the disinfection after death or recovery, but considerable precious time must in many cases elapse before the health officer can be brought on the scene. But in a large number of cases the other children of the immediate or neighboring families have been exposed to the infection before the true nature of the disease is suspected and often before the physician is sent for. In such cases the isolation of the patient comes too late, and there then remains only one method of prevention, and that a method which can be used only by the family physician. We refer to the use of immunizing doses of diphtheria antitoxin. This remedy, we fear, not only as a preventative, but also as a curative agency, is sadly neglected by many of our physicians. Until its discovery no single remedy or combination of remedies could be reckoned as anything approaching a specific, but the accumulation of an immense amount of evidence shows conclusively to our mind that antitoxin, if used promptly—within the first twenty-four hours, can justly be called a specific for diphtheria, and if used in sufficient quantity, at any period of the disease, by long odds the most effective remedy known. The death roll has certainly been greatly reduced under its use. Some fear to use it lest it produce injurious effects, but it seems, so far as we are informed, that there is practically no danger to life, even in very large doses—seventy to eighty thousand units—and beyond an occasional urticaria or arthralgia, which, while damaging, are not dangerous, it seems

to be free from risk. We may be too enthusiastic, but our deliberate conviction is that if we were in charge of a case of diphtheria and failed to use antitoxin as soon as possible after the diagnosis was made, we would be guilty of a grave, if not a criminal, neglect of duty. We earnestly hope that our medical readers will give this matter very careful consideration. In our next issue we hope to give a statement of the evidence by a friend who is recognized as high authority throughout the country.

The duty of health officers in relation to all infectious diseases is so plain that we feel some delicacy in reminding them of it, but we fear that in many instances they are not as prompt and thorough in its performance as they ought to be. To those who can say with candor that they always have been both prompt and thorough we apologize for suggesting that they could have done otherwise.

Diphtheria is essentially a disease of childhood, and the infection is therefore very frequently spread in the schools.

It is, therefore, extremely important that the officials charged with the duty of giving notice of contagious diseases to those in charge of our schools, public and private, as set forth in section 11, should perform this duty *promptly*, and equally important that the said school authorities should see to it that the instructions laid down in section 12 (see below) are rigidly carried out. These are very grave responsibilities, and a failure to meet them is sure to entail sickness and death that could have been avoided. We very much fear that the duties cited are often overlooked, and we earnestly commend to those interested a careful re-reading of the sections of the law quoted.

**Extracts from the Evidence for
Antitoxin.**

THE COLLECTIVE INVESTIGATION BY THE
AMERICAN PEDIATRIC SOCIETY OF THE
ANTITOXIN TREATMENT OF LARYNGEAL
DIPHThERIA IN PRIVATE PRACTICE.

This investigation showed that in an analysis of 1,704 antitoxin treated cases of laryngeal diphtheria—the most fatal type of diphtheria—in private practice there were 360 deaths; mortality, 21.12 per cent. The cases analyzed occurred in the practice of 422 physicians, in the United States and Canada.

Among the 1,036 cases not requiring operation there were 178 deaths; mortality, 17.18 per cent. It was formerly estimated that only about 10 per cent. of all laryngeal cases recover without operation. This report shows that in 1,036 cases 82.82 per cent. did not require operation after antitoxin was administered.

Among the 668 cases requiring operation the mortality was only 27.24 per cent. In the early days of intubation it was customary to speak of the percentage of recoveries, and 24 to 27 per cent. were considered good results. In the last reports the recoveries have crept up so high per hundred cases that it seemed more natural to speak of the percentage of mortality. The figures were found to have been reversed since antitoxin has been employed. Whereas formerly 27 per cent. represented the recoveries, now, under antitoxin treatment, 27 per cent. represents the mortality.

W. P. NORTHRUP, M. D.,
JOSEPH O'DWYER, M. D.,
L. EMMETT HOLT, M. D.,
SAMUEL S. ADAMS, M. D.,
Special Committee.

The committee recommends: Antitoxin should be given at the earliest possible moment in all cases of suspected diphtheria.

L. Emmett Holt, A. M., M. D., Professor of Diseases of Children, New York Polyclinic; Attending Physician The Nursery and Childs and Babies Hospitals, New York; Consulting Physician, New York Infant Asylum, etc., in an address to the Cleveland Medical Society, October 26, 1900, emphasized the following important points, reported in the Journal American Medical Association, December 22, 1900: Taking up first the present status of diphtheria antitoxin, he pointed out "that all its opponents who had consented to give it fair trial had been won over." Reciting the facts and statistics in detail, he showed that: "the mortality from diphtheria has everywhere been reduced more than one-half by the use of antitoxin, and in each locality in proportion to the vigor and extent of its employment. The proportion of laryngeal cases requiring operation has been reduced one-half, and intubation now saves 70 per cent. of cases instead of the former 30 per cent. The physician who now treats diphtheria without antitoxin is guilty of as great criminal negligence as is a surgeon who does a laparotomy without sterilizing his hands, instruments or dressings. Immunizing doses have been too small; 500 to 700 units should be given to a child of 5 years, and 250 to 350 to an infant under one year."

SOME EXTRACTS FROM THE LAW BEARING
ON CONTAGIOUS DISEASES.

SEC. 9. When a householder knows that a person within his family is sick

with either of the diseases enumerated in section eight (small-pox, diphtheria, scarlet fever, etc.), he shall immediately give notice thereof to the health officer or mayor, if he resides in a city or incorporated town, otherwise to the county superintendent of health, and upon the death or recovery or removal of such person, the rooms occupied and the articles used by him shall be disinfected by such householder in the manner indicated in section eight. Any person neglecting or refusing to comply with any of the above provisions shall be deemed guilty of a misdemeanor, and upon conviction shall be fined not less than one dollar nor more than fifty dollars.

SEC. 10. When a physician knows that a person whom he is called to visit is infected with small-pox, diphtheria, scarlet fever, typhus fever, yellow fever or cholera, he shall immediately give notice thereof to the health officer or mayor, if the sick person be in a city or incorporated town, otherwise to the county superintendent of health, and if he refuses or neglects to give such notice of it in twenty-four hours, he shall be guilty of a misdemeanor and shall be fined for each offense not less than ten nor more than twenty-five dollars. And it shall be the duty of the said county superintendent, health officer or mayor receiving such notice of the presence of a case of small-pox, yellow fever, typhus fever or cholera within his jurisdiction to communicate the same immediately by mail or telegraph to the Secretary of the State Board of Health. A failure to perform this duty for twenty-four hours after the receipt of the notice shall be deemed a misdemeanor, and shall subject the delinquent upon conviction

to a fine of not less than ten nor more than twenty-five dollars.

SEC. 11. The county superintendents of health, or the board of health in the several cities and towns where organized, otherwise the authorities of said cities or towns, shall cause a record to be kept of all reports received in pursuance of the preceding sections, and such records shall contain the names of all persons who are sick, the localities in which they live, the diseases with which they are affected, together with the date and names of all persons reporting any such cases. The boards of health of cities and towns wherever organized, and where not the mayors of the same, and in other cases the county superintendent of health, shall give the school committee of the city or town, the principals of private schools and the superintendent of public instruction of the county, when the schools are in session, notice of all such cases of contagious diseases reported to them according to the provisions of this act. A failure to perform this duty for twenty-four hours after the receipt of the notice shall be deemed a misdemeanor, and subject the delinquent upon conviction to a fine of not less than ten nor more than fifty dollars.

SEC. 12. The school committees of public schools, superintendents of graded schools and the principals of private schools shall not allow any pupil to attend the school under their control while any member of the household to which said pupil belongs is sick of either small-pox, diphtheria, measles, scarlet fever, yellow fever, typhus fever or cholera, or during a period of two weeks after the death, recovery or removal of such sick person; and any pupil coming from such household shall be required to pre-

sent to the teacher of the school the pupil desires to attend a certificate from the attending physician, city health officer or county superintendent of health of the facts necessary to entitle him to admission in accordance with the above regulations. A wilful failure on the part of any school committee to perform the duty required in this section shall be deemed a misdemeanor, and upon conviction shall subject each and every member of the same to a fine of not less than one nor more than twenty-five dollars: *Provided*, that the instructions in accordance with the provisions of this section given to the teachers of the schools within twenty-four hours after the receipt of each and every notice shall be deemed performance of duty on the part of the school committee. Any teacher of a public school and any principal of a private school failing to carry out the requirements of this section shall be deemed guilty of a misdemeanor, and upon conviction shall be fined not less than one nor more than twenty-five dollars.

Wanted—A Physician.

A letter from Mr. R. W. Woodward, Cana, Davie county, asks us to put him in communication with one or more physicians with a view to securing one for his neighborhood, their former doctor having moved to Mocksville. He says: "This is a good country field. Is a Christian community and largely Baptist as to denomination." We would thank any of our readers desiring such a location to write Mr. Woodward.

Review of Diseases for August, 1903.

EIGHTY-FOUR COUNTIES REPORTING.

Ninety-six counties have Superintendents of Health.

Except in the case of the more contagious and dangerous diseases the Superintendent has, as a rule, to rely upon his own information alone, since few physicians can be induced to report cases of non-contagious diseases to him.

Where the number of cases is not given, or the prevalence of a disease otherwise indicated, its mere presence in the county is to be understood as reported.

For the month of August the following diseases have been reported from the counties named:

MEASLES.—Ashe, 13 cases; Gaston, 2; Pitt, 4; Watanga, 30 to 40; Yancey, a few—5 counties.

WHOOPING-COUGH.—Burke a few; Cabarrus, 4; Clay, a few; Craven, a few; Durham; Edgecombe, a few; Forsyth, many; Gaston, 33; Gates, 30; Granville, 8; Greene, 4; Henderson, many; Iredell, 4; Lincoln, 6; Martin, many; New Hanover, a few; Onslow, 6; Pitt, 10; Polk, many; Sampson, several; Union, 16; Watanga, 20—22 counties.

SCARLATINA.—Burke, 4; Cabarrus, 2; Caswell, 1; Catawba, 1; Macon, 2; Orange, many; Gaston, 4; Graham, 2; Guilford, 2; Henderson, 1; Hyde, 2; Mecklenburg; New Hanover, 1; Wilkes, 2—14 counties.

DIPHTHERIA.—Alleghany; Ashe, 5; Bertie, 3; Bladen, 1; Brunswick, 6; Cabarrus, 1; Currituck, 5; Cleveland, a few; Cumberland, 1; Forsyth, several;

Gaston, 4; Halifax, 25; Macon, 3; New Hanover, 1; Onslow, 8; Orange, 3; Rutherford, 5; Vance, 1—18 counties.

TYPHOID FEVER.—Alamance, 25; Alexander, a few; Alleghany; Anson, a few; Ashe, 9; Bladen, 1; Brunswick, 4; Burke, 6; Cabarrus, 6; Caldwell, 10; Caswell, 1; Chatham; Chowan, 3; Clay, in all parts; Columbus, many; Craven, 9; Cumberland, a few; Currituck, several; Davidson; Darric; Duplin, a few; Edgecombe, a few; Forsyth, many; Franklin, 3; Gaston, 35; Gates, 5; Graham, 8; Greene, 22; Guilford, 2; Henderson, 10; Iredell, 10; McDowell, 2; Macon, 6; Martin, 4; Mecklenburg; Moore, 1; Nash, 34; New Hanover, 8; Onslow, 1; Orange, 4; Pasquotank; Pender, many; Perquimans, 3; Person; Pitt, 5; Randolph, in all parts; Richmond, a few; Robeson, in all parts; Rockingham, several; Rutherford, 4; Sampson, a few; Scotland, a few; Stanly; Surry, 8; Union, 20; Vance, several; Wake, 9; Washington, 8; Watauga, 40; Wayne, several; Wilkes, 4; Yadkin, several; Yancey, a few—63 counties.

MALARIAL FEVER.—Anson; Bertie, in all parts; Brunswick, in all parts; Camden; Columbus; Craven; Cumberland; Currituck, in all parts; Dare, in all parts; Duplin; Gates, in all parts; Greene; Iredell; Lincoln; New Hanover, in all parts; Onslow, in all parts; Orange, a few; Pender; Perquimans, in all parts; Pitt; Randolph, in all parts; Rockingham, in all parts; Scotland; Stanly; Vance, several; Washington, in all parts—27 counties.

MALARIAL FEVER, PERNICIOUS.—Hyde, 1; New Hanover, 1; Pitt, 1; Washington, 1.

MALARIAL FEVER, HEMORRHAGIC.—Hyde, 3; Onslow, 1.

BOWEL DISEASES.—Burke, a few;

Cleveland, a few; Currituck, in all parts; Graham, in all parts; Sampson—5 counties.

MUMPS.—Henderson; Sampson, a few.

SMALL-POX.—Alamance, 3; Bertie, 3; Burke, 4; Cabarrus, 1; Catawba, 2; Cleveland, 2; Columbus, 1; Durham, 5; Gaston, 2; Iredell, 5; Madison, 20; Polk, 1; Rockingham, 2; Surry, 5; Wake, 1—15 counties.

CHOLERA IN CHICKENS.—Bertie; Clay.

CHOLERA IN HOGS.—Bertie, Dare, Duplin, Hyde, Moore, Sampson.

No diseases reported from Jackson, Pamlico, Swain, Transylvania, Warren and Wilson.

No reports received from Beaufort, Hertford, Mitchell, Montgomery, Northampton, Rowan and Stokes.

Summary of Mortuary Reports for August, 1903.

(TWENTY-FIVE TOWNS).

	White.	Col'd.	Total.
Aggregate population.....	86,450	62,000	148,450
Aggregate deaths..	101	122	223
Representing temporary annual death rate per 1,000	14.0	23.6	18.0
<i>Causes of Death.</i>			
Typhoid fever	11	3	14
Scarlet fever.....	3	1	4
Malarial fever	3	7	10
Whooping-cough...	1	2	3
Pneumonia.....	1	2	3
Consumption	4	17	21
Brain diseases	6	5	11
Heart diseases.....	7	11	18
Neurotic diseases...	7	6	13
Diarrhoeal diseases	13	16	29
All other diseases..	41	46	87
Accident	2	5	7
Suicide	2	0	2
Violence	0	1	1
	101	122	223
Deaths under five years.....	31	41	72
Still-born....	7	16	23

Mortuary Report for August, 1903.

TOWNS AND REPORTERS.	RACES.	POPULATION.		TEMPORARY ANNUAL DEATH RATE PER 1,000.		Typhoid Fever.	Scarlet Fever.	Malarial Fever.	Diphtheria.	Whooping-cough.	Measles.	Pneumonia.	Consumption.	Brain Diseases.	Heart Diseases.	Neurotic Diseases.	Diarrheal Diseases.	All Other Diseases.	Accident.	Suicide.	Violence.	TOTAL DEATHS.		Deaths under five years.	
		By Races.	Total.	By Races.	Total.																	By Races.	By Towns.		Still-born
Charlotte	W.	11,000	18,200	17.5	19.2	2	...	...	...	...	...	1	...	2	...	2	...	4	...	...	...	16	7	3	...
Dr. F. O. Hawley.	C.	7,200		23.3		2	...	...	...	...	...	...	1	...	...	...	5	...	...	...	14	30	6	3	
Durham	W.	8,000	13,000	25.5	25.8	...	...	...	...	...	...	...	2	1	1	...	3	9	...	1	...	17	5	1	...
Dr. N. M. Johnson.	C.	5,000		26.4		...	...	...	...	...	...	...	1	1	2	...	...	7	...	...	11	28	5	...	
Edenton	W.	1,200	3,000	0.0	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	0	...	...
Dr. T. J. Hoskins.	C.	1,800		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fayetteville	W.	2,500	4,800	4.8	10.0	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	4	1	...	
Dr. A. S. Rose.	C.	2,300		15.6		1	1	1	3	4	1
Goldsboro	W.	3,500	6,100	3.4	9.8	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	4	5	1	...
Robt. A. Creech, H. O.	C.	2,600		18.5		4	1	3	2
Greensboro	W.	6,100	10,100	15.7	23.8	4	...	...	...	...	...	...	...	...	1	...	...	2	1	...	...	8	20	1	1
Jno. S. Michaux, C. C.	C.	4,000		36.0		1	...	4	...	1	5	1	12	4	1
Henderson	W.	2,100	3,800	0.0	25.3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	...	...	...
Dr. John H. Tucker.	C.	1,700		56.5		1	3	2	2	8	8	...
Laurinburg	W.	900	1,500	0.0	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	0	...	...
Dr. G. D. Everington.	C.	600		0.0		0	0	...
Lexington	W.	800	1,300	30.0	18.4	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	2	...	...	...
J. H. Moyer, Mayor.	C.	500		0.0		0	2	...
Louisburg	W.	1,000	1,800	0.0	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	0	...	...
Dr. E. S. Foster.	C.	800		0.0		0	0
Marion	W.	800	1,200	15.0	20.0	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	2	...	...
Dr. Grey S. Kirby.	C.	400		30.0		1	1	2
Monroe	W.	1,850	2,450	13.0	9.8	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	2	...	...	...
Dr. Jno. M. Blair.	C.	600		0.0		0	2	...
Oxford	W.	1,200	2,450	0.0	4.9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	1	...	1
Dr. S. D. Booth.	C.	1,250		9.6		1	1	...	1
Raleigh	W.	8,000	13,800	15.0	16.5	1	...	...	...	...	...	...	...	1	...	1	...	7	...	...	...	10	10	1	...
T. P. Sale, Clerk B. H.	C.	5,800		18.6		6	3	3
Reidsville	W.	2,900	4,200	12.4	17.1	2	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	3	6	1	...
Jas. T. Smith, C. C.	C.	1,300		27.7		3
Salem	W.	3,300	3,650	18.2	16.4	...	...	2	...	...	...	...	...	...	1	...	...	...	...	...	...	5	5	3	...
S. E. Butner, Mayor.	C.	350		0.0		2	0	...
Salisbury	W.	3,900	6,400	3.1	15.0	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	8	...	...
Dr. H. T. Trantham.	C.	2,500		33.6		...	1	1	...	1	...	2	2	7	...	2
Southport	W.	900	1,400	0.0	8.6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	1	...	...
Dr. D. I. Watson.	C.	500		24.0		1
Tarboro	W.	2,000	2,500	18.0	24.0	...	...	...	...	...	...	...	...	...	...	...	...	2	1	...	...	3	5	1	...
Dr. Wm. J. Thigpen.	C.	500		48.0		1	1
Wadesboro	W.	1,000	1,700	0.0	7.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	1	...	1
Dr. J. H. Bennett.	C.	700		17.1		1	...
Washington	W.	3,000	5,500	4.0	4.4	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	2	...	...
Dr. D. T. Tayloe.	C.	2,500		48.0		1
Waynesville	W.	1,000	1,300	12.0	9.2	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	1	...	...
Dr. Thos. Stringfield.	C.	300		0.0		0	1
Wilmington	W.	10,000	21,000	25.6	30.3	1	...	2	...	1	...	...	...	1	2	4	5	7	...	...	...	23	53	8	2
Dr. Chas. T. Harper.	C.	11,000		32.7		7	...	2	...	1	2	...	1	6	2	7	1	1	30	10	5
Wilson	W.	3,500	6,800	0.0	7.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	4	...	...
Dr. W. S. Anderson.	C.	3,300		11.5		3	1
Winston	W.	6,000	10,500	12.0	18.3	...	1	...	...	...	...	...	...	...	1	...	...	3	...	1	...	6	3	...	...
Dr. J. L. Hanes.	C.	4,500		26.7		4	2	1	...	1	2	10	16	5

N. B.—The reporters for the cities and towns printed in **Black Type** have signed this certificate: "I hereby certify that this report gives the *whole* number of deaths occurring within the corporate limits during the above month."

County Superintendents of Health.

Alamance	Dr. H. R. Moore.	Jones.....	Dr. S. E. Koonce.
Alexander	Dr. C. J. Carson.	Lenoir	Dr. C. L. Pridgen.
Alleghany	Dr. Robt. Thompson.	Lincoln	Dr. John W. Saim.
Anson	Dr. J. H. Bennett.	McDowell.....	Dr. G. S. Kirby.
Ashe.....	Dr. Manley Blevins.	Macon	Dr. F. L. Siler.
Beaufort	Dr. D. T. Tayloe.	Madison	Dr. W. J. Weaver.
Bertie	Dr. H. V. Dunstan.	Martin.....	Dr. W. H. Harrell.
Bladen.....	Dr. L. B. Evans.	Mecklenburg.....	Dr. C. S. McLaughlin.
Brunswick	Dr. J. A. McNeill.	Mitchell.....	Dr. V. R. Butt.
Buncombe	Dr. D. E. Sevier.	Montgomery	Dr. M. P. Blair.
Burke.....	Dr. J. L. Laxton.	Moore.....	Dr. Gilbert McLeod.
Cabarrus.....	Dr. R. S. Young.	Nash	Dr. J. P. Battle.
Caldwell	Dr. A. A. Kent.	New Hanover	Dr. W. D. McMillan.
Camden.....	Dr. J. L. Lister.	Northampton.....	Dr. H. W. Lewis.
Carteret	Dr. F. M. Clarke.	Onslow.....	Dr. E. L. Cox.
Caswell	Dr. S. A. Malloy.	Orange.....	Dr. D. C. Parris.
Catawba	Dr. Geo. H. West.	Pamlico.....	Dr. H. P. Underhill.
Chatham.....	Dr. T. A. Kirkman.	Pasquotank	Dr. J. B. Griggs.
Cherokee.....	Dr. Oscar Patton.	Pender.....	Dr. R. J. Williams.
Chowan.....	Dr. T. J. Hoskins.	Perquimans.....	Dr. C. C. Winslow.
Clay	Dr. P. B. Killian.	Person.....	Dr. J. A. Wise.
Cleveland	Dr. B. H. Palmer.	Pitt.....	Dr. Zeno Brown.
Columbus.....	Dr. I. Jackson.	Polk	Dr. C. J. Kenworthy.
Craven.....	Dr. Joseph F. Rhem.	Randolph	Dr. W. J. Moore.
Cumberland.....	Dr. A. S. Rose.	Richmond.....	Dr. F. J. Garrett.
Currituck	Dr. H. M. Shaw.	Robeson	Dr. H. T. Pope.
Dare	Dr. W. B. Fearing.	Rockingham	Dr. Sam Ellington.
Davidson.....	Dr. Joel Hill.	Rowan.....	Dr. W. L. Crump.
Davie	Dr. M. D. Kimbrough.	Rutherford.....	Dr. T. B. Twitty.
Duplin	Dr. A. J. Jones.	Sampson	Dr. John A. Stevens.
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Greene.....	Dr. C. S. Maxwell.	Vance.....	Dr. H. H. Bass.
Guilford.....	Dr. Edmund Harrison.	Wake.....	Dr. J. J. L. McCullers.
Halifax	Dr. I. E. Green.	Warren.....	Dr. E. M. Gayle.
Harnett.....	Dr. O. L. Denning.	Washington	Dr. W. H. Ward.
Haywood	Dr. J. F. Abel.	Watauga.....	Dr. C. W. Phipps.
Henderson	Dr. J. G. Waldrop.	Wayne.....	Dr. Williams Spicer.
Hertford	Dr. J. H. Mitchell.	Wilkes.....	Dr. W. P. Horton.
Hyde	Dr. E. H. Jones.	Wilson.....	Dr. W. S. Anderson.
Iredell	Dr. M. R. Adams.	Yadkin	Dr. T. R. Harding.
Jackson.....	Dr. R. L. Davis.	Yancey	Dr. J. L. Ray.
Johnston	Dr. Thel Hooks.		

BULLETIN

OF THE

North Carolina Board of Health.

Published Monthly at the Office of the Secretary of the Board, Raleigh, N. C.

GEO. G. THOMAS, M. D., *Pres.*, Wilmington.

S. WESTRAY BATTLE, M. D., Asheville.

HENRY W. LEWIS, M. D., Jackson.

J. L. NICHOLSON, M. D., Richlands.

W. P. IVEY, M. D., Lenoir.

FRANCIS DUFFY, M. D., New Bern.

W. H. WHITEHEAD, M. D., Rocky Mt.

J. L. LUDLOW, C. E., Winston.

RICHARD H. LEWIS, M. D., *Secretary and Treasurer*, Raleigh.

VOL. XVIII.

OCTOBER, 1903.

No. 7.

A Case of Uncinariasis.

BY A. O. JONES, M. D.

[The response on the part of the profession in the State to our offer in the BULLETIN for July and August to have made for them free of charge in our laboratory the diagnosis of uncinariasis has been extremely insignificant and discouraging. It argues one of two things: either utter indifference on the subject, which we do not believe, or that the physicians of the State, not using the microscope themselves, make the diagnosis from the general symptoms and thereupon institute the specific treatment. It is some trouble to send for the container, get it to the patient in the country, several miles distant probably, have specimens returned and mail it, and we believe that the latter explanation of the apparent indifference is the real one. Not long since, while waiting at a railway station in one of our eastern counties, we remarked to a friend with whom we were

talking, upon seeing a young man of the characteristic appearance: "There is a case of the new hook-worm disease, I am sure, and I'll suggest to him to tell his physician to look for it." We accordingly introduced ourself to him and explained, whereupon he replied that his doctor was already treating him for it, and that he was feeling greatly improved. But all the same we cannot but feel that our medical men have not fully waked up to the prevalence and seriousness of this disease. As an indication of how common it is, it is worth while to mention that of twenty-four specimens of faeces from as many suspected cases submitted to the microscope by a member of our own Board, the eggs were found in every one, and he has expressed the opinion that there are at least one hundred cases in his clientèle. There are doubtless thousands of cases of uncinariasis in our State, and in our judgment nothing would so promote the health, happiness and usefulness of the masses of our country people as an active cru-



sade against this disease. In order to further this, we take pleasure in presenting to our readers the subject once more, this time in the concrete, in the report of a case by Dr. A. O. Jones of Raleigh, which follows.—Ed.]

The following case came under my observation about May 1, 1903. Soon after, I obtained a sample of the feces which was examined microscopically by Mr. Gerald McCarthy, Biologist of the State Board of Health. The eggs of *Uncinaria Americana* were found in the feces. The patient, E. W., is white, male, about twenty-four years old, feeble and delicate, with that peculiar anemic appearance borne by those addicted to dirt eating or geophagism. The patient is a native of Wake county, N. C., vicinity of Raleigh, and seems to have spent his whole life, so far, in this county. Two years ago he removed from the country to Raleigh and became employed at night work in one of the cotton mills.

Skin.—Yellowish, waxy, with appearance of sunburn, cold and clammy. Might be mistaken for extreme biliousness.

Some months ago the patient received an injury to some of his fingers. Bleeding was abnormally small, and under even the best aseptic treatment the wounds were notably slow to heal. There seemed to be a general deficiency of blood to the parts.

Eyes and Lids.—The conjunctival surface of the lids is white and marble-like in appearance. The small blood vessels usually visible in the ocular conjunctiva are absent or contain so small a quantity of blood as to render them invisible. The pupils of the eyes are dilated, having the appearance produced by large doses of atropine or belladonna. Further observation, however, showed that the pupils become at times more contracted. The

eyes have ordinarily a dull, staring look, almost devoid of expression.

Lips and Gums.—Both lips and gums are almost entirely destitute of blood. A prick of a needle brings no blood from either.

Teeth.—Teeth very irregular, and many are carious, though none have the Hutchinson appearance.

Nostrils.—The lining membrane of nostrils is like the gums—bloodless and marble-like in whiteness.

Tongue.—The tongue has a very characteristic and peculiar appearance. It was at first covered with a thick fur, so that the patient complained that he needed calomel. His voice was thick and his articulation indistinct and muffled. Eight grains of calomel cleared the tongue, which then appeared nearly white, except as to some three or four circular spots from the size of a dime to that of a 25-cent piece. These spots were deep brown in color. The tongue was deeply fissured and slightly swollen.

Neck.—The cervical pulsation is distinctly visible and the anæmic hum is plainly heard with the stethoscope.

Thoracic Cavity.—Ribs prominent, as is well shown in photograph. General appearance much emaciated.

Abdomen.—The abdomen is much distended, suggesting dropsy. The patient himself, referring to his prominent paunch, told me his grandmother had died of dropsy. He feared he had inherited the disease.

Urine.—Specific gravity, 10.12; albumen, none; sugar, none; reaction slightly alkaline; color, pale.

Feces.—Usually hard but sometimes soft. Reaction alkaline. Muddy in color and usually covered with slimy mucus. While under my care he has had two slight attacks of dysentery.

Blood.—The blood lacks fluidity and is saffron-colored rather than red. Two blood counts were made by Mr. McCarthy. Two attempts were made to secure blood enough for a count from lobe of ear, but failed. Finally enough blood was secured from finger tip by pressure. The counts showed less than one million red blood cells per cubic millimeter. The average for persons in normal health is above five million red blood cells per cubic millimeter. This shows an enormous loss of blood in patient and explains the bloodless condition of the extremities.

General Health.—The patient shows great physical weakness. Can stand but little fatigue. His gait is usually slow, and when he tries to walk faster he soon shows distress. Temperature varies between 99° F. and 101° F. Pulse about 80—very feeble. Appetite poor and fickle. Craves peculiar foods, especially fond of sour pickles and things possessing a strong twang. Drinks black coffee in abnormal quantities. Denies having eaten clay in recent years, but says that “back in the country” when he was a boy there was a certain kind of clay of a white color that the boys were fond of eating, or, as he expressed it, “they sucked the sweetness from it.”

After determining the presence of the hook-worm in the intestines, thymol in twenty-grain doses, repeated in two hours and followed four hours later by epsom salts, was administered. This treatment was repeated after one week. The patient, after taking thymol, suffered some dizziness, but soon recovered. The patient states that an inspection of his first evacuation after the administration of thymol showed the appearance of a whitish mass of wriggling maggots—that it looked to him “like the flies must

have blown him inside.” A second examination of the feces was then made and failed to show the eggs of the worm. The patient is now on a course of lacto-peptone and phosphites and shows marked and steady improvement. From a weight of 104¼ pounds in May he has increased to 137½ on October 12th; color has appeared in his ears and mucous membranes, and he is at work every day in the mill.

The photograph accompanying this paper was made by Hayes of Raleigh, at the request of Mr. McCarthy, at whose request also this clinical history of the case has been prepared.

A New Course in General Hygiene Offered at the University.

A course in General Hygiene has been inaugurated at the State University. A dozen lectures will be given by various members of the Faculty who are experts in the different lines upon which they will lecture. The plan is to develop this general course, to which all the students are invited, into a regular, definite, required course which will later be given in conjunction with systematic work in the new gymnasium. The following are the lecturers and subjects for the current session:

Dr. Charles S. Mangum, Professor of Materia Medica—“Cleanliness; Internal and External” (for men only); “Physical Excesses” (for men only).

Mr. A. D. Brown, Gymnasium Instructor—“Physical Culture.”

Professor J. W. Gore, Professor of Physics—“Lighting, Heating and Clothing.”

Dr. Charles Baskerville, Professor of General and Industrial Chemistry—“Air

and Ventilation"; "Water, Its Purification and Sewage Disposal."

Dr. Alvin S. Wheeler, Associate Professor of Organic Chemistry—"Food and Food Adulteration."

Dr. R. H. Whitehead, Professor of Anatomy—"Causes of Infection"; "Prevention of Infection."

Dr. J. C. MacRae, Professor of Law—"Sanitary Laws, or One's Duty to Neighbor and Self."

Dr. Isaac H. Manning, Professor of Physiology—"Nutrition."

We cannot commend too highly this inauguration of instruction in general hygiene of the whole student body by the University. The leaders of public opinion in the State are trained there and at our other excellent institutions of learning, State and Church, and if all of them would take up this work, the ultimate effect on the public health would be very great. We sincerely hope that this will be done.

Review of Diseases for September, 1903.

EIGHTY-FIVE COUNTIES REPORTING.

Ninety-six counties have Superintendents of Health.

Except in the case of the more contagious and dangerous diseases the Superintendent has, as a rule, to rely upon his own information alone, since few physicians can be induced to report cases of non-contagious diseases to him.

Where the number of cases is not given, or the prevalence of a disease otherwise indicated, its mere presence in the county is to be understood as reported.

For the month of September the following diseases have been reported from the counties named:

MEASLES.—Forsyth; Perquimans, 1; Pitt, 6; Rockingham; Swain, a few; Watauga, 10 or 12—6 counties.

WHOOPIING-COUGH.—Cabarrus, 11; Caswell, several; Cumberland, a few; Durham, a few; Edgecombe, several; Forsyth, several; Gaston, a few; Graham, 1; Halifax, 5; Harnett, a few; Henderson, many; Macon, in eastern part; Martin, a great many; Orange, a few; Rockingham; Rutherford, several; Sampson; Swain, a few; Vance, a few; Wake, 23; Watauga, 30; Yadkin—22 counties.

SCARLATINA.—Cabarrus, 1; Caswell, 1; Catawba, 1; Cleveland, several; Craven, 1; Davidson, 1; Forsyth, many; Gaston, 2; Guilford, 1; Henderson, 2; Iredell, 2; Martin, 2; New Hanover, 4; Orange, 2; Rockingham; Stanly; Wake, 2; Wilkes—18 counties.

DIPHTHERIA.—Alamance, a few; Alleghany, in all parts; Ashe, 12; Beaufort, 8; Brunswick, 8; Burke, 4; Cabarrus, 1; Carteret, 6; Cleveland, a few; Craven, 2; Cumberland, 1; Currituck, 2; Durham, 2; Edgecombe, 5; Forsyth, several; Guilford, 7; Halifax, 27; Haywood, 30; Macon, 1; Martin, 2; Nash, 3; New Hanover, 5; Orange, 1; Pender, 4; Rutherford, a few; Sampson, 3; Stanly; Wake, 5; Wilson, 2; Yadkin—30 counties.

TYPHOID FEVER.—Alamance, a few; Anson; Ashe, 8; Bladen, 2; Brunswick, 7; Cabarrus, 5; Caldwell, 6; Camden, 1; Caswell, 2; Catawba, 4; Chatham, several; Chowan, 1; Cleveland, a few; Columbus, 1; Craven, 4; Cumberland, a few; Currituck, a few; Dare, 2; Davidson, many; Davie, a few; Duplin, 3; Durham, 3; Edgecombe, a few; Forsyth, many; Franklin; Graham, 20; Granville, 2; Greene, 13; Harnett, a few; Haywood, 8; Henderson, 8 to 12; Iredell, 6; McDowell, 2; Macon, 11; Madison, 6; Martin, 4; Mecklenburg; Moore, 2; Nash, 6; New Hanover, 9; Northampton, in many

parts; Orange, 8; Pamlico, 3; Pender, a few; Perquimans, 8; Person, a few; Pitt, 4; Polk; Randolph, several; Richmond, a few; Robeson, many; Rockingham; Rutherford, 10; Sampson, a few; Scotland, a few; Stanly; Union, 30; Vance, several; Wake, 25; Warren, a few; Watauga, 10; Wayne, a few; Yadkin; Yancey, a few—64 counties.

MALARIAL FEVER.—Bertie, general; Brunswick, general; Camden, general; Chowan; Columbus, a few; Craven; Cumberland; Currituck; Dare; Duplin; Gaston; Greene, general; Halifax; Harnett; Martin, general; Northampton; Pamlico, general; Pender; Perquimans, general; Pitt; Richmond, many; Robeson; Rockingham; Scotland; Vance, general; Warren; Washington—27 counties.

MALARIAL FEVER, PERNICIOUS.—Martin, 1; Pitt, 1; Randolph, 2; Wake, 1—4 counties.

MALARIAL FEVER, HEMORRHAGIC.—Chowan, 1; Craven, 1; Martin, 2; Pamlico, 4—4 counties.

BOWEL DISEASES.—Currituck.

INFLUENZA.—Graham.

MUMPS.—Macon, in eastern part.

PNEUMONIA.—Graham; Harnett.

TONSILLITIS.—Gates; Moore; Swain.

SMALL-POX.—Cabarrus, 3; Caswell, 2; Cleveland, 6; Columbus, 1; Davie, 13; Harnett, 8; Iredell, 4; Madison, 5; Rockingham, 5; Surry, 3; Wilson, 1—11 counties.

CHOLERA, IN HOGS.—Bertie; Clay; Duplin; Greene; Macon; Martin; Sampson—7 counties.

No diseases reported from Alamance, Buncombe, Clay, Jackson, Johnston, Lincoln, Pasquotank and Washington.

No reports received from Cherokee, Hertford, Hyde, Jones, Lenoir, Mitchell, Montgomery, Onslow, Rowan, Stokes and Transylvania.

Summary of Mortuary Reports for September, 1903.

(TWENTY-SIX TOWNS).

	<i>White.</i>	<i>Col'd.</i>	<i>Total.</i>
Aggregate population.....	93,150	66,750	159,900
Aggregate deaths..	106	140	246
Representing temporary annual death rate per 1,000	13.6	25.2	18.5
<i>Causes of Death.</i>			
Typhoid fever	7	7	14
Scarlet fever.....	2	0	2
Malarial fever	1	4	5
Diphtheria	4	4	8
Whooping-cough..	2	3	5
Pneumonia.....	1	1	2
Consumption	6	30	36
Brain diseases	4	4	8
Heart diseases.....	8	11	19
Neurotic diseases...	4	2	6
Diarrhoeal diseases	16	13	29
All other diseases..	49	52	101
Accident	1	7	8
Violence	1	2	3
	106	140	246
Deaths under five years.....	42	50	92
Still-born.....	11	17	28

Mortuary Report for September, 1903.

TOWNS AND REPORTERS.	RACES.	POPULATION.		TEMPORARY ANNUAL DEATH RATE PER 1,000.		Typhoid Fever.	Scarlet Fever.	Malarial Fever.	Diphtheria.	Whooping-cough.	Measles.	Pneumonia.	Consumption.	Brain Diseases.	Heart Diseases.	Neurotic Diseases.	Diarrhoeal Diseases.	All Other Diseases.	Accident.	Suicide.	Violence.	TOTAL DEATHS.		Deaths under five years.	Still-born.
		By Races.	Total.	By Races.	Total.																	By Races.	By Towns.		
Charlotte	W. C.	11,000	18,200	9.8	15.2	...	...	...	...	...	...	...	1	1	...	...	...	7	...	...	...	9	23	9	4
Dr. F. O. Hawley.	C.	7,200		23.3		...	...	...	1	...	...	...	2	1	...	...	...	8	...	...	1	14	23	5	2
Durham	W. C.	8,000	13,000	30.0	24.0	...	...	...	2	2	...	1	2	2	...	6	3	1	...	...	...	20	26	10	...
Dr. N. M. Johnson.	C.	5,000		14.4		...	...	...	...	...	...	...	1	2	...	1	1	...	...	...	1	6	26	3	...
Edenton	W. C.	1,200	3,000	20.0	16.0	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	2	4	1	...
Dr. T. J. Hoskins.	C.	1,800		13.3		...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	2	4	1	...
Elizabeth City	W. C.	6,000	10,000	8.0	14.4	...	...	...	...	...	...	...	...	...	...	1	3	...	...	...	...	4	12	1	...
Dr. I. Fearing.	C.	4,000		24.0		...	...	...	...	...	...	3	3	...	3	...	2	...	...	...	...	8	12	1	...
Fayetteville	W. C.	2,500	4,800	9.6	15.0	...	...	...	...	...	...	...	2	1	...	...	1	...	...	...	...	4	6	...	1
Dr. A. S. Rose.	C.	2,300		20.9		...	...	...	...	...	...	...	...	...	...	...	2	4	...	...	...	...	...	...	...
Goldsboro	W. C.	3,500	6,100	17.1	31.5	...	...	...	...	...	...	...	5	...	1	2	2	...	...	...	...	11	16	3	1
Robt. A. Creech, H. O.	C.	2,600		50.8		...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	3	2
Greensboro	W. C.	6,100	10,100	15.7	32.1	1	...	...	...	...	...	1	1	2	...	2	1	5	...	...	...	8	27	5	2
Jno. S. Michaux, C. C.	C.	4,000		57.0		1	...	...	...	...	...	1	...	...	...	2	12	1	...	...	...	19	27	7	1
Henderson	W. C.	2,100	3,800	0.0	12.6	...	...	...	...	...	...	...	1	1	1	...	...	1	...	...	...	4	4	...	...
Dr. John H. Tucker.	C.	1,700		28.2		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Laurinburg	W. C.	900	1,500	0.0	8.0	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	0	1	...	...
Dr. G. D. Everington.	C.	600		20.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	1	...	...
Lexington	W. C.	800	1,300	0.0	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	0	...	...
J. H. Moyer, Mayor.	C.	500		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	0	...	...
Louisburg	W. C.	1,000	1,800	0.0	13.3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	2	...	...
Dr. E. S. Foster.	C.	800		30.0		1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Marion	W. C.	800	1,200	30.0	20.0	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	2	2	...	...
Dr. Grey S. Kirby.	C.	400		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	2	...	...
Monroe	W. C.	1,850	2,450	13.0	9.8	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	2	2	...	...
Dr. Jno. M. Blair.	C.	600		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Oxford	W. C.	1,200	2,450	10.0	14.7	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	1	3	1	...
Dr. S. D. Booth.	C.	1,250		19.2		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Raleigh	W. C.	8,000	13,800	7.5	12.2	...	...	...	...	...	...	...	1	...	...	...	4	...	...	...	...	5	14	1	1
T. P. Sale, Clerk B. H.	C.	5,800		18.6		1	...	...	...	...	...	...	2	...	...	...	6	...	...	...	...	9	5	3	...
Reidsville	W. C.	2,900	4,200	12.4	14.3	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	3	5	3	...
Jas. I. Smith, C. C.	C.	1,300		18.5		...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	2	...	...	...
Salem	W. C.	3,300	3,650	14.5	13.2	...	...	...	...	...	...	...	...	1	...	...	3	...	...	...	...	4	4	1	...
S. E. Butner, Supt. H.	C.	350		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	...	...	...
Salisbury	W. C.	3,900	6,400	12.3	15.0	2	1	...	...	...	...	...	...	...	2	1	1	...	...	...	...	4	8	1	1
Dr. H. T. Trantham.	C.	2,500		19.2		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Southport	W. C.	900	1,400	13.3	25.7	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	3	...	1
Dr. D. I. Watson.	C.	500		48.0		...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	2	...	...	...
Tarboro	W. C.	2,000	2,500	12.0	28.8	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	2	6	1	...
Dr. Wm. J. Thigpen.	C.	500		96.0		1	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	4	...	...	...
Wadesboro	W. C.	1,000	1,700	24.0	21.2	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	1	3	...	...
Dr. J. H. Bennett.	C.	700		17.1		...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Washington	W. C.	3,000	5,500	16.0	10.9	1	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	4	5	...	...
Dr. D. T. Tayloe.	C.	2,500		4.8		...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...
Waynesville	W. C.	1,000	1,300	24.0	18.5	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...	...
Dr. Thos. Stringfield.	C.	300		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	...	...	...
Weidon	W. C.	700	1,450	17.1	33.1	...	...	...	...	1	1	...	1	...	...	...	1	...	...	...	...	3	4	2	...
J. T. Gooch, Mayor.	C.	750		48.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Wilmington	W. C.	10,000	21,000	19.2	22.8	1	...	1	...	...	...	1	...	2	3	3	5	...	...	...	...	16	40	5	1
Dr. Chas. T. Harper.	C.	11,000		26.2		...	...	1	1	...	...	1	2	1	1	5	7	1	...	...	...	24	12	6	...
Wilson	W. C.	3,500	6,800	13.7	19.4	...	...	...	...	...	...	...	3	...	2	...	1	...	...	...	...	7	11	1	...
Dr. W. S. Anderson.	C.	3,300		25.4		...	...	1	...	...	...	...	...	...	...	...	3	...	...	...	...	...	3	...	...
Winston	W. C.	6,000	10,500	6.0	52.9	1	...	...	...	...	...	1	...	1	...	...	1	...	...	...	...	3	13	...	...
Dr. J. S. Hanes.	C.	4,500		28.9		2	...	...	1	...	...	3	1	...	...	2	...	...	...	...	...	10	5	1	...

N. B.—The reporters for the cities and towns printed in **Black Type** have signed this certificate: "I hereby certify that this report gives the *whole* number of deaths occurring within the corporate limits during the above month."

County Superintendents of Health.

Alamance	Dr. H. R. Moore.	Jones.....	Dr. S. E. Koonce.
Alexander	Dr. C. J. Carson.	Lenoir	Dr. C. L. Pridgen.
Alleghany	Dr. Robt. Thompson.	Lincoln	Dr. John W. Saim.
Anson	Dr. J. H. Bennett.	McDowell	Dr. G. S. Kirby.
Ashe	Dr. Manley Blevins.	Macon	Dr. F. L. Siler.
Beaufort	Dr. D. T. Tayloe.	Madison	Dr. W. J. Weaver.
Bertie	Dr. H. V. Dunstan.	Martin	Dr. W. H. Harrell.
Bladen	Dr. L. B. Evans.	Mecklenburg.....	Dr. C. S. McLaughlin.
Brunswick	Dr. J. A. McNeill.	Mitchell.....	Dr. V. R. Butt.
Buncombe	Dr. D. E. Sevier.	Montgomery	Dr. M. P. Blair.
Burke	Dr. J. L. Laxton.	Moore.....	Dr. Gilbert McLeod.
Cabarrus.....	Dr. R. S. Young.	Nash	Dr. J. P. Battle.
Caldwell	Dr. A. A. Kent.	New Hanover	Dr. W. D. McMillan.
Camden	Dr. J. L. Lister.	Northampton.....	Dr. H. W. Lewis.
Carteret	Dr. F. M. Clarke.	Onslow.....	Dr. E. L. Cox.
Caswell	Dr. S. A. Malloy.	Orange.....	Dr. D. C. Parris.
Catawba	Dr. Geo. H. West.	Pamlico.....	Dr. H. P. Underhill.
Chatham	Dr. T. A. Kirkman.	Pasquotank	Dr. J. B. Griggs.
Cherokee.....	Dr. Oscar Patton.	Pender.....	Dr. R. J. Williams.
Chowan.....	Dr. T. J. Hoskins.	Perquimans.....	Dr. C. C. Winslow.
Clay	Dr. P. B. Killian.	Person	Dr. J. A. Wise.
Cleveland	Dr. B. H. Palmer.	Pitt.....	Dr. Zeno Brown.
Columbus.....	Dr. I. Jackson.	Polk	Dr. C. J. Kenworthy.
Craven	Dr. Joseph F. Rhem.	Randolph	Dr. W. J. Moore.
Cumberland.....	Dr. A. S. Rose.	Richmond.....	Dr. F. J. Garrett.
Currituck	Dr. H. M. Shaw.	Robeson	Dr. H. T. Pope.
Dare	Dr. W. B. Fearing.	Rockingham	Dr. Sam Ellington.
Davidson.....	Dr. Joel Hill.	Rowan	Dr. W. L. Crump.
Davie	Dr. M. D. Kimbrough.	Rutherford.....	Dr. T. B. Twitty.
Duplin	Dr. A. J. Jones.	Sampson	Dr. John A. Stevens.
Durham	Dr. N. M. Johnson.	Scotland	Dr. A. W. Hamer.
Edgecombe	Dr. W. J. Thigpen.	Stanly.....	Dr. V. A. Whitley.
Forsyth.....	Dr. W. O. Spencer.	Stokes	Dr. W. V. McCanless.
Franklin	Dr. E. S. Foster.	Surry	Dr. John R. Woltz.
Gaston.....	Dr. H. F. Glenn.	Swain	Dr. A. M. Bennet.
Gates.....	Dr. W. O. P. Lee.	Transylvania	Dr. C. W. Hunt.
Graham	Dr. V. J. Brown.	Tyrrell.....	
Granville	Dr. S. D. Booth.	Union	Dr. John M. Blair.
Greene	Dr. C. S. Maxwell.	Vance.....	Dr. H. H. Bass.
Guilford.....	Dr. Edmund Harrison.	Wake.....	Dr. J. J. L. McCullers.
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Johnston	Dr. Thel Hooks.		

BULLETIN

OF THE

North Carolina Board of Health.

Published Monthly at the Office of the Secretary of the Board, Raleigh, N. C.

GEO. G. THOMAS, M. D., *Pres.*, Wilmington.
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J. L. LUDLOW, C. E., Winston.

RICHARD H. LEWIS, M. D., *Secretary and Treasurer*, Raleigh.

VOL. XVIII.

NOVEMBER, 1903.

No. 8.

Our Medical License Law.

It being a fact, as we have maintained for many years, that one of the greatest menaces to the public health is the incompetent physician, anything bearing on the subject is in order and of interest to our readers. We therefore take pleasure in laying before them the able brief of Attorney-General Gilmer in the case of *State v. Andrew C. Biggs*, now pending in the Supreme Court on appeal by Biggs, he having lost in the court below:

Biggs, it seems, is an osteopathist, and to our mind has absolutely no ground to stand on. The truth of the matter as to the amendment bearing on osteopathy is, as the Attorney-General surmises, that the list of studies or branches in which they are required to be examined was taken from the catalogue of one of their colleges. The member from New Hanover, who was the special champion of the osteopaths,

submitted to us a leaf containing the printed list as it now appears in the law, which he said had been sent to him by the osteopath in Wilmington as containing the list of the branches on which they were willing to be examined. We objected to the awkwardness, not to say absurdity, of incorporating such a list in the law, and suggested an amendment in more general and fitting terms covering the same ground. But he would hear to nothing but the printed list exactly as it was, and as it really included everything in medicine except therapeutics, which we proposed to omit anyway, and the outlook for our bill was not very bright, we accepted it. We cannot believe that our Supreme Court will declare our law unconstitutional, and look forward to their decision with confidence.

We are glad to note that in the recent suit against the State Board of Dental Examiners by a rejected applicant to require the issuance to him of

a license, and for damages, that the Board won. This case has also been appealed, but the court below will doubtless be sustained. The brief is as follows:

No. —

STATE *v.* ANDREW C. BIGGS.

STATE OF NORTH CAROLINA,

Guilford County.

In Supreme Court, August Term, 1903.

BRIEF FOR THE STATE.

The defendant was indicted in the Superior Court of Guilford county for practicing medicine and surgery and the branches thereof without having obtained a license so to do from the Board of Medical Examiners of the State of North Carolina. At May Term, 1903, of the said Superior Court, upon a special verdict found in the cause, his Honor W. R. Allen, the Judge presiding, adjudged that the defendant was guilty, and from the judgment he appeals to this Court.

The statutes involved in this discussion are section 3122 of The Code; chapter 117, Acts 1885, and chapter 697, Public Laws 1903, amendatory of said section 3122 of The Code.

The act of 1903 declares that "For the purpose of this act the expression practice of medicine or surgery shall be construed to mean the management or treatment, for fee or reward, of any case of disease, physical or mental, real or imaginary, with or without drugs, surgical operation, surgical or mechanical appliances or by any other method whatsoever; *Provided*, that this shall not apply to midwives or nurses: *Provided further*, that applicants not belonging to

the regular school of medicine shall not be required to stand an examination except upon the branches taught in their regular colleges, to-wit, the osteopaths shall be examined only upon descriptive anatomy, general chemistry, histology, physiology, urinalysis, and toxicology, hygiene, regional anatomy, pathology, neurology, surgery, applied anatomy, bacteriology, gynecology, obstetrics and physical diagnosis: *Provided*, this act shall not apply to any person who ministers to or cures the sick or suffering by prayer to Almighty God, without the use of any drug or material means."

The special verdict finds that the defendant has offices in his residence in the city of Greensboro, and displays in front of his house a sign bearing the words: "A. C. Biggs, Non-medical Physician." He advertises himself as a physician and invites the "afflicted" to consult him, and declares that "it matters not what the nature of your trouble or how long you have been afflicted, my Life System of Drugless Healing will surely benefit you. *The sick* made well without drugs or surgery."

The special verdict finds that: "He administers massage, baths and physical culture. He manipulates the muscles, bones, spine and *solar plexus*, and kneads the muscles with the fingers of the hand.

"He writes no prescriptions as to diet, but advises his patients as to what to eat and what not to eat. He prescribes when his treatment shall be taken, and has treated many patients for fees and reward during the months of March and April, between the ratification of this act of the General Assembly hereinbefore referred to (the act of 1903) and the issuing the warrants in this case."

ARGUMENT.

From the foregoing facts it is not difficult to determine the school of medicine to which the defendant belongs. In Judge Brannon's work on The Fourteenth Amendment, page 239, the following language occurs:

"Osteopathy.—This new word is composed of two Greek words, literally meaning the restoration of bone. It is practiced by some for the cure of ailment by a process which rejects the use of drugs or medicine and substitutes a system of rubbing and kneading of the body."

This writer, referring to the practice of medicine by the regular school and the practice of osteopathy, says, on page 240: "Both are for the cure or treatment of human ailment. *Incompetency in the one is as deadly as in the other.*"

SKILLED TRADES AND LEARNED PROFESSIONS ARE SUBJECTS OF POLICE REGULATION.

Tiedeman on State and Federal Control, section 87, pp. 141-142, says:

"Where the successful prosecution of a calling requires a certain amount of technical knowledge and professional skill, and the lack of them in the practitioner will result in material damage to the one who employs him, it is a legitimate exercise of police power to prohibit any one from engaging in the calling who has not previously been examined by the lawfully constituted authority and received a certificate in testimony of his qualification to practice the profession. The right of the State to exercise this control over skilled trades and the learned professions, with a single exception in respect to teachers and expounders of religion, has never been seriously questioned."

Cooley on Torts, p. 289.

Brannon, *supra*, p. 81.

State v. Van Doran, 109 N. C., at p. 869.

State v. Call, 121 N. C., 643.

Laws regulating the practice of medicine are of ancient origin. We read in Dr. Bonham's case, Coke's Reports, part 8, pp. 116-117 (1606), "of a Law concerning Physicians, for the more Safety and Health of Men," and the existence of a board of censors with power to remove a certain class of practitioners "who more hurt the Body of Man than the Disease itself." Laws of this character have been incorporated in the statutes of almost every State in the Union, and as far as we have been able to discover, all have been upheld as a valid exercise of the police power of the State. In *Burroughs v. Webster*, 150 Ind., at pp. 616-617, the decisions of twenty-nine States are collected, sustaining this proposition. Several of these cases bear upon the other points involved in this appeal.

Ever since the origin of osteopathy, said to have been in 1871, with Dr. Still of Kirksville, Mo., there has been a great controversy in regard to the question as to whether a person engaged in its practice came within the scope of statutes regulating the practice of medicine and surgery. Several States held that it did; others that it did not. In *State v. McKnight*, 131 N. C., 717, this Court held that an osteopath did not come within our statutes regulating the practice of medicine and surgery.

In *McKnight's* case, *State v. Leffring*, 61 Ohio State, 39, 46 L. R. A., p. 334, is cited. Subsequent to the decision in *Leffring's* case the Legislature of Ohio passed an act in which a more comprehensive definition of the practice of medicine was given. This enactment was

passed upon by the Supreme Court of that State in Gravett's case, 65 Ohio State, 289, 55 L. R. A., 791. This case is relied upon in the brief of counsel for the appellant to sustain the attack upon the constitutionality of the law by the General Assembly of North Carolina hereinbefore recited. It is submitted that this case establishes one proposition contended for the State, as the following citation will show: "Where * * * the pursuit concerns in a direct manner the public health and welfare, and is of such a character as to require a special course of study or training or experience to qualify one to pursue such occupation with safety to the public interests, it is within the competency of the General Assembly to enact reasonable regulations to protect the public against evils which may result from incapacity and ignorance." And the *Legislature* has "ample power to protect the public health and welfare by providing that only the learned may pursue a learned profession whose activities so closely affect them."

The reason assigned by the Supreme Court of Ohio declaring that a particular feature of the statute of that State discriminates against the osteopath does not commend itself to favorable consideration. It refers to the motives of the General Assembly and declares that the law was enacted by a body "for whose members there is no prescribed qualification of education, knowledge or intelligence." In this State the rule is declared, in *State v. John E. Moore*, 104 N. C., 714, to be: "In the interpretation of statutes, it is the duty of the courts to resolve every doubt in favor of their constitutionality and to assume that the *Legislature*, in their enactment, acted in good faith for the public good." One of counsel for the

appellant whose name appears upon the brief certainly will not contend that the General Assembly of 1903 did not possess "education, knowledge or intelligence" sufficient to deal with the question of osteopathy, for he himself was an honored member of that body.

THE DEFINITION OF WHAT CONSTITUTES THE PRACTICE OF MEDICINE AS DEFINED IN THE ACT OF 1903 EMBRACES THE OSTEOPATH, AND THE MODE OR MANNER OF DETERMINING HIS QUALIFICATIONS TO PRACTICE HIS PROFESSION IS A QUESTION PURELY WITHIN THE DOMAIN OF LEGISLATION.

In *Williams v. People*, 121 Ill., p. 88, it is said: "It was in the province of the Legislature to prescribe what should be the qualifications for the practice of medicine and what the mode in which they should be determined." To the same effect are the following cases:

People v. Blue Mountain Joe, 129 Ill., 377.

Driscoll v. Commonwealth, 93 Ky., 399.

Hedderich v. State, 101 Ind., 564.

Harding v. People, 10 Col., 387.

Eastman v. State, 109 Ind., 278.

From the foregoing cases and several others cited in *Burroughs v. Webster*, *supra*, the proposition that the Legislature possesses the power to regulate the practice of osteopathy is established beyond controversy. Indeed counsel in their brief virtually concede this to be true, but assail the constitutionality of the law.

THE ACT OF 1903 IS CONSTITUTIONAL.

In the first place it will be observed that by the terms of the statute "applicants not belonging to the regular school of medicine shall not be required to stand an examination except upon the branches taught in their regular col-

leges." The statute then gives a list of certain branches applicable alike to *all* of the class of practitioners known as osteopaths. In the absence of anything appearing in the record to the contrary, it must be assumed that the legislative classification of branches prescribed for osteopaths represents the curriculum which obtains in their colleges. The mere suggestion of counsel that such a course of study is unreasonable cannot avail. It is submitted that the Legislature has found as a fact that the branches mentioned in the statute are those taught in the school of Osteopathy. There is certainly nothing unreasonable in requiring the applicant to undergo an examination upon the very studies taught in his own institutions.

The statute applies alike to all persons belonging to the same class, that is, to *all* osteopaths. In such cases the Legislature is the sole judge of the classification and the law is constitutional.

In *State v. Stevenson*, 109, at p. 734, Judge Clark, in speaking of the power of the Legislature to tax occupations, says: "It could lay a fixed tax on some occupations and graduate it on some others by the volume of business done or in any other mode it may deem fit. It is within the legislative power to *define the different classes* and fix the license tax required in each case."

State v. Moore, 113 N. C., 697.

State v. Call, *supra*, and cases cited.

Brannon on The Fourteenth Amendment, p. 81.

In many of the cases cited in *Burroughs v. Webster*, *supra*, the objection that legislation of this character violated the Fourteenth Amendment was interposed, and in no case was the objection sustained. Indeed, so well set-

tled is the proposition that in several of the cases the point is not even suggested.

The defendant contends that the act violates sections 1, 7, 17 and 31 of Article I of the Constitution of North Carolina. These sections relate respectively to the Equality and Rights of Man; Exclusive Emoluments; Due Process and the Law of the Land, and Monopolies.

This Court has already declared that legislation of the character of that under consideration does not violate any of the foregoing sections of our State Constitution.

State v. Van Doran, *supra*.

State v. Call, *supra*.

See also Brannon, *supra*, p. 81.

THE LAW OF 1903 IS REASONABLE IN ITS TERMS.

There is nothing in the statute which indicates any intention on the part of the Legislature to deprive any person of his rights. The object and spirit of the statute are clearly within the police power and its purpose is to prevent the incompetent osteopath from practicing his profession. The contention of the defendant that the act proscribes all others than the adherents of the two schools mentioned cannot be sustained. In *Eastman v. State*, *supra*, it is said: "When intelligent and educated men differ in their theories, the Legislature has no power to condemn the one or approve the other, *but it may require learning and skill in the school of medicine which the physician professes to practice.*"

The second ground upon which the defendant bases his contention that the act is unconstitutional is not tenable. The Legislature has the power to determine the composition of the Board, and the objection that the Board is

composed entirely of allopaths cannot be sustained. In *State v. Gravett, supra*, the attention of the Supreme Court of Ohio was called "to the fact that there is no member of the board representing the school of Osteopathy." In reply to this suggestion the Court said: "It could not be maintained, and we do not understand counsel to contend, that the board of medical examination must be so numerous a body that it may have a member of every existing or possible school." In *Iowa Medical Association v. Schrader*, 87 Iowa, p. 659, 20 L. R. A., at p. 359, it is said: "Much is said in argument about the composition of the defendant board as to the different schools of medicine, but, as the statute does not require that the different schools shall be represented on the board, its composition cannot affect its jurisdiction or the legality of its acts in the respect under consideration."

The statement in the brief of counsel that the effect of the law "is to create a monopoly for the allopaths" is without foundation. As is said in *Eastman's case*: "The State has an interest in the life and health of all its citizens, and the law under examination was framed, not to bestow favors upon a particular profession, but to discharge one of the highest duties of a State, that of protecting its citizens from injury and harm."

The defendant does not possess any natural right to practice his profession which is not subject to the control of the Legislature, restricted only by positive provisions of the Constitution.

Cooley's Constitutional Limitations,

6th ed., p. 197, para. 4.

Eastman v. State, supra.

Williams v. People, supra.

People v. Phippin, 70 Mich., 6.

As insisted hereinbefore the statute of 1903 imposes no unreasonable burden upon the osteopath, for it limits his examination to those branches taught in his school of medicine. We will not venture upon the field of technical knowledge for the purpose of endeavoring to show that the branches of study prescribed by the statute are reasonably necessary in order to render an osteopath competent to properly discharge the duties imposed upon him in representing his particular school.

It appears, however, from the record that the appellant offers himself as a physician ready and able to treat almost every disease, and to furnish discriminating treatment to those who seek the benefit of his ministrations; and while he may rely upon manipulations, rubbing and kneading of the bones and muscles of the system, yet he professes to have skill which will enable him to adapt his method of treatment to each individual case. Before this can be done it is necessary for the appellant to be able to diagnose each case.

He should, therefore, be, as was said in *Bonham's case*, mentioned by my Lord Coke, "groundly learned," and "profoundly studied," particularly in anatomy, histology, neurology, hygiene, physiology and physical diagnosis, and indeed, in the other branches mentioned in the statute. It may be insisted that the osteopath need not undergo an examination on toxicology, but we submit that he should be able to correctly diagnose a case of poison and the antidote which should be applied, for what good would the mere rubbing the body do when the deadly virus courses through the veins of the serpent-bitten victim, hurrying him to certain death? A knowledge of the other sciences mentioned in the statute certainly is neces-

sary to render the osteopath proficient in the discharge of his duties, and to protect the people from his incompetency. These will be mentioned on the oral argument.

The Supreme Court of Michigan, in *People v. Phippin*, 70, at p. 20, says: "A great majority of the public know little of the anatomy of the human system, or of the nature of the ills that human flesh is heir to; and there is no profession, no occupation or calling where people may more easily or readily be imposed upon by charlatans. It is almost an every-day experience that people afflicted with disease will purchase and swallow all sorts of nostrums because some quack has recommended it."

It is intimated in the brief of counsel for appellant that the principle of "due process of law" or "the law of the land" is involved in the case at bar. It is true that the exercise of the police power of the State often interferes with and restricts a person in the enjoyment of his property, but we have never understood that, for that reason, it was the exercise of judicial power, or that, if not exercised by judicial proceedings in court it was not "due process of law" or "the law of the land." Counsel refer to the paper of Judge Parker delivered before the Georgia Bar Association and printed in Volume 37 of the *American Law Review*, on "due process of law." All we have to say in regard to this is that when the learned judge speaks in the concluding paragraph, on page 656, of "the great branches of State legislation which particularly affect personal liberty and property rights," he gives apparent paramount importance to the expression "police powers" by mentioning it first in order.

ROBERT D. GILMER.

Attorney-General.

Review of Diseases for October, 1903.

EIGHTY-FIVE COUNTIES REPORTING.

Ninety-six counties have Superintendents of Health.

Except in the case of the more contagious and dangerous diseases the Superintendent has, as a rule, to rely upon his own information alone, since few physicians can be induced to report cases of non-contagious diseases to him.

Where the number of cases is not given, or the prevalence of a disease otherwise indicated, its mere presence in the county is to be understood as reported.

For the month of October the following diseases have been reported from the counties named:

MEASLES.—Ashe, 8 cases; Caldwell, 1; Pitt, 2; Rockingham; Watauga, 10—5 counties.

WHOOPIING-COUGH.—Caswell, several; Craven, a few; Cumberland, a few; Durham; Edgecombe, a few; Gaston, many; Graham, 100; Granville, 4; Henderson, many; Jackson, 50; Macon, in eastern part; Martin, many; Mecklenburg; Onslow, 3; Pitt, 10; Rutherford, a few; Sampson, a few; Watauga, 50; Yadkin—19 counties.

SCALATINA.—Cleveland, a few; Davidson; Forsyth, about 100; Gaston, a few; Guilford, 2; Henderson, 2; Lincoln, 2; Martin, 2; Moore, 1; New Hanover, 11; Randolph, a few; Rockingham; Rowan, 12; Stanly; Watauga, 5; Wilkes—16 counties.

DIPHTHERIA.—Alexander, 4; Alleghany, in all parts; Ashe, 12; Brunswick, 2; Cabarrus, 5; Caswell, 2; Cleveland, a few; Craven, 3; Edgecombe, 3; Forsyth, 5; Gaston, a few; Guilford, 4; Harnett, a few; Haywood, 4; Macon, 2;

Martin, 2; Mecklenburg; New Hanover, 15; Onslow, 50; Pender, 1; Randolph, 1; Richmond, a few; Rowan, 1; Rutherford, 6; Stanly; Union, 10; Watauga, 6 to 10; Wilkes, 5; Wilson, 5; Yadkin—30 counties.

TYPHOID FEVER.—Alexander, many; Anson, several; Ashe, 13; Bertie, 1; Bladen, 1; Brunswick, 3; Cabarrus, 1; Caldwell, 4; Caswell, 2; Catawba, 3; Chatham; Chowan, 1; Cleveland, a few; Columbus, 1; Craven, 6; Cumberland; Davidson; Durham, 4; Edgecombe, 2; Forsyth, 8; Franklin, 1; Gaston, a few; Gates, 1; Green, 3; Harnett, many; Haywood, 2; Iredell, 2; Lenoir, a few; Lincoln, 6; McDowell, 3; Macon, 2; Madison, 6; Martin, 4; Mecklenburg; Nash, 4; New Hanover, 3; Northampton, a few; Onslow, 3; Perquimans, 3; Pitt, 3; Randolph, a few; Richmond, a few; Robeson, many; Rockingham; Rowan, 6; Rutherford, 4; Sampson, a few; Scotland, a few; Stanly; Union, 20; Vance, 3; Warren, a few; Watauga, 10; Wayne, several; Wilkes, 4; Yadkin; Yancey, a few—57 counties.

MALARIAL FEVER.—Bertie, many cases; Brunswick; Camden; Columbus; Cumberland; Currituck, a few; Dare; Duplin; Franklin; Gaston; Gates, a few; Johnston; Lenoir, in all parts; Martin, in all parts; Northampton; Onslow, in all parts; Perquimans; Person; Pitt, in all parts; Richmond; Robeson; Vance, in all parts; Warren, Washington; Wayne—25 counties.

MALARIAL FEVER, PERNICIOUS.—Columbus, 1; Johnston, 1; Martin, 2; Pitt, 1; Washington, 1—5 counties.

MALARIAL FEVER, HEMORRHAGIC.—Cumberland, 1; Franklin, 1; Martin, 2; Northampton, 3; Perquimans, 1—5 counties.

BOWEL DISEASES.—Currituck, Gates, Greene.

INFLUENZA.—Caswell, Randolph.

MUMPS.—Clay, Macon, Orange, in eastern part.

PNEUMONIA.—Anson, Clay, Graham, Moore, Person.

TONSILLITIS.—Moore.

SMALLPOX.—Alamance, 2; Buncombe, 2; Caswell, 2; Davidson, 40; Davie, 41; Forsyth, 14; Harnett, 10; Madison, 20; Person, 7; Rowan, 1; Surry, 2; Wayne, 1; Wilson, 2—13 counties.

CHOLERA IN CHICKENS.—Graham.

CHOLERA IN HOGS.—Bertie, Brunswick, Clay, Columbus, Duplin, Gates, Graham, Martin, Northampton, Sampson.

No diseases reported from Burke, Carteret, Pasquotank, Polk and Transylvania.

No reports received from Cherokee, Halifax, Hertford, Hyde, Jones, Mitchell, Montgomery, Pamlico, Stokes, Swain and Wake.

Summary of Mortuary Reports for October, 1903.

(TWENTY-SIX TOWNS).

	White.	Col'd.	Total.
Aggregate population.....	90,350	63,850	154,200
Aggregate deaths..	114	144	258
Representing temporary annual death rate per 1,000.....	15.1	27.1	20.1
<i>Causes of Death.</i>			
Typhoid fever.....	4	5	9
Malarial fever.....	3	7	10
Diphtheria.....	2	1	3
Whooping-cough..	0	8	8
Pneumonia.....	6	4	10
Consumption.....	9	20	29
Brain diseases.....	6	4	10
Heart diseases.....	11	12	23
Neurotic diseases..	4	8	12
Diarrhœal diseases	12	12	24
All other diseases..	52	56	108
Accident.....	4	5	9
Violence.....	1	2	3
	114	144	258
Deaths under five years.....	37	56	93
Still-born.....	2	14	16

Mortuary Report for October, 1903.

TOWNS AND REPORTERS.	RACES.	POPULATION.		TEMPORARY ANNUAL DEATH RATE PER 1,000.		Typhoid Fever.	Scarlet Fever.	Malarial Fever.	Diphtheria.	Whooping-cough.	Measles.	Pneumonia.	Consumption.	Brain Diseases.	Heart Diseases.	Neuritic Diseases.	Diarrhoeal Diseases.	All Other Diseases.	Accident.	Suicide.	Violence.	TOTAL DEATHS.		Under five years.	Stillborn.
		By Races.	Total.	By Races.	Total.																	By Races.	By Towns		
Charlotte	W.	11,000		16.4																		15	6	1	
Dr. F. O. Hawley.	C.	7,200	18,200	23.3	13.6																	14	29	3	1
Durham	W.	8,000		19.5		1			1			2	1		1	1	7					13	27	5	
Dr. N. M. Johnson.	C.	5,000	13,000	34.6	24.9	1						2	1	4	1	1	5					14	27	5	
Edenton	W.	1,200		0.0																		0	1		
Dr. T. J. Hoskins.	C.	1,900	3,100	6.3	3.9																	1	1		
Elizabeth City	W.	6,000		16.9				1				1	2	1								8	8	3	
Dr. I. Fearing.	C.	4,000	10,000	33.0	22.8			3		2		2	1			2	1					11	19	3	1
Fayetteville	W.	2,500		14.4									2									3	5		
Dr. A. S. Rose.	C.	2,300	4,800	23.1	20.0							1			1		2	1				3	8	2	
Goldsboro	W.	3,500		24.0								1					2	4				7	7	3	
Robt. A. Creech, H. O.	C.	2,600	6,100	69.2	43.3								1	2			1	10			1	15	22	6	
Greensboro	W.	6,100		9.8				1									1	3				5	7	12	3
Jno. S. Michaux, C. C.	C.	4,000	10,100	21.0	14.2							4					3					7	12	3	1
Henderson	W.	2,100		5.7											1							1	4	5	
Dr. John H. Tucker.	C.	1,700	3,800	28.2	15.8					1		1					1					4	5		
Laurinburg	W.	900		51.3		1						1			2							4	4		
Dr. G. D. Everington.	C.	600	1,500	0.0	32.0																	0	4		
Lenoir	W.	1,200		0.0																		0	0		
Dr. A. A. Kent.	C.	300	1,500	80.0	16.0													2				2	2		
Lexington	W.	800		15.0		1																1	1		
J. H. Moyer, Mayor.	C.	500	1,300	0.0	9.2																	0	1		
Marion	W.	800		15.0													1					1	1		
Dr. Guy S. Kirby.	C.	400	1,200	0.0	10.0																	0	1		
Monroe	W.	1,850		0.0																		0	2		
Dr. Jno. M. Blair.	C.	600	2,450	40.0	9.8							1					1					2	2		
Oxford	W.	1,200		0.0																		0	1		
Dr. S. D. Booth.	C.	1,250	2,450	9.6	4.9					1												1	1		
Raleigh	W.	8,000		16.5		1							2	1	2		1	4				11	22	1	
T. P. Sale, Clerk B. H.	C.	5,800	13,800	22.1	19.1	1		1					1		1	1	5					11	22	5	1
Reidsville	W.	2,900		16.5								1					3					4	5	2	
Jas. F. Smith, C. C.	C.	1,300	4,200	9.2	14.3												1					1	5	2	
Salem	W.	3,300		14.5																		4	6	2	
S. E. Butner, Supt. H.	C.	350	3,650	68.6	19.7							1	1				4					2	6	2	
Salisbury	W.	3,900		9.2													1	2				3	6		
Dr. H. T. Frantham.	C.	2,500	6,400	14.4	11.2								1				1	1				3	6		
Southport	W.	900		13.3								1										1	1		
Dr. D. I. Watson.	C.	500	1,400	0.0	8.6																	0	1		
Tarboro	W.	2,000		6.0																		1	5	1	
Dr. Wm. J. Thigpen.	C.	500	2,500	96.0	24.0							1					2	1				4	5	1	
Wadesboro	W.	1,000		24.0								1					1					2	2		
Dr. J. H. Bennett.	C.	700	1,700	0.0	14.1																	0	2		
Waynesville	W.	1,000		24.0												1	1					2	2	1	
Dr. Thos. Stringfield.	C.	300	1,300	0.0	18.5																	0	2		
Weldon	W.	700		17.1											1							1	3		
J. T. Gooch, Mayor.	C.	750	1,450	48.0	33.1								2						1			3	4		
Wilmington	W.	10,000		24.0				2	1					3	1	4	6				1	20	7		
Dr. Chas. T. Harper.	C.	11,000	21,000	34.9	29.7	1	3	3	3			1	1	3	6	4	9	1				32	52	20	4
Wilson	W.	3,500		10.3		1						1		1	1	1	1					3	5	1	
Dr. W. S. Anderson.	C.	3,300	6,800	7.3	8.8																	2	5		
Winston	W.	6,000		8.0								1		1	1	1	1					4	1		
Dr. J. S. Hanes.	C.	4,500	10,500	26.6	16.0	1			1			1		1	1	1	4				1	10	14	5	2

N. B.—The reporters for the cities and towns printed in **Black Type** have signed this certificate: "I hereby certify that this report gives the *whole* number of deaths occurring within the corporate limits during the above month." *In addition, one non-resident died of consumption.

County Superintendents of Health.

Alamance	Dr. H. R. Moore.	Jones.....	Dr. S. E. Koonce.
Alexander	Dr. C. J. Carson.	Lenoir	Dr. C. L. Pridgen.
Alleghany	Dr. Robt. Thompson.	Lincoln	Dr. John W. Saim.
Anson	Dr. J. H. Bennett.	McDowell	Dr. G. S. Kirby.
Ashe.....	Dr. Manley Blevins.	Macon	Dr. F. L. Siler.
Beaufort	Dr. D. T. Tayloe.	Madison	Dr. W. J. Weaver.
Bertie	Dr. H. V. Dunstan.	Martin	Dr. W. H. Harrell.
Bladen.....	Dr. L. B. Evans.	Mecklenburg.....	Dr. C. S. McLaughlin.
Brunswick	Dr. J. A. McNeill.	Mitchell.....	Dr. V. R. Butt.
Buncombe	Dr. D. E. Sevier.	Montgomery	Dr. M. P. Blair.
Burke.....	Dr. J. L. Laxton.	Moore.....	Dr. Gilbert McLeod.
Cabarrus.....	Dr. R. S. Young.	Nash	Dr. J. P. Battle.
Caldwell	Dr. A. A. Kent.	New Hanover	Dr. W. D. McMillan.
Camden.....	Dr. J. L. Lister.	Northampton.....	Dr. H. W. Lewis.
Carteret	Dr. F. M. Clarke.	Onslow.....	Dr. E. L. Cox.
Caswell	Dr. S. A. Malloy.	Orange.....	Dr. D. C. Parris.
Catawba	Dr. Geo. H. West.	Pamlico.....	Dr. H. P. Underhill.
Chatham.....	Dr. T. A. Kirkman.	Pasquotank	Dr. J. B. Griggs.
Cherokee.....	Dr. Oscar Patton.	Pender.....	Dr. R. J. Williams.
Chowan.....	Dr. T. J. Hoskins.	Perquimans.....	Dr. C. C. Winslow.
Clay	Dr. P. B. Killian.	Person	Dr. J. A. Wise.
Cleveland	Dr. B. H. Palmer.	Pitt.....	Dr. Zeno Brown.
Columbus.....	Dr. I. Jackson.	Polk	Dr. C. J. Kenworthy.
Craven.....	Dr. Joseph F. Rhem.	Randolph	Dr. W. J. Moore.
Cumberland.....	Dr. A. S. Rose.	Richmond.....	Dr. F. J. Garrett.
Currituck.....	Dr. H. M. Shaw.	Robeson	Dr. H. T. Pope.
Dare	Dr. W. B. Fearing.	Rockingham	Dr. Sam Ellington.
Davidson.....	Dr. Joel Hill.	Rowan.....	Dr. W. L. Crump.
Davie	Dr. M. D. Kimbrough.	Rutherford.....	Dr. T. B. Twitty.
Duplin.....	Dr. A. J. Jones.	Sampson	Dr. John A. Stevens.
Durham	Dr. N. M. Johnson.	Scotland	Dr. A. W. Hamer.
Edgecombe	Dr. W. J. Thiigpen.	Stanly.....	Dr. V. A. Whitley.
Forsyth.....	Dr. W. O. Spencer.	Stokes	Dr. W. V. McCanless
Franklin	Dr. E. S. Foster.	Surry	Dr. John R. Woltz.
Gaston.....	Dr. H. F. Glenn.	Swain.....	Dr. A. M. Bennet.
Gates.....	Dr. W. O. P. Lee.	Transylvania	Dr. C. W. Hunt.
Graham	Dr. V. J. Brown.	Tyrrell.....	
Granville	Dr. S. D. Booth.	Union	Dr. John M. Blair.
Greene.....	Dr. C. S. Maxwell.	Vance.....	Dr. H. H. Bass.
Guilford.....	Dr. Edmund Harrison.	Wake.....	Dr. J. J. L. McCullers
Halifax	Dr. I. E. Green.	Warren.....	Dr. E. M. Gayle.
Harnett.....	Dr. O. L. Denning.	Washington	Dr. W. H. Ward.
Haywood	Dr. J. F. Abel.	Watauga.....	Dr. C. W. Phipps.
Henderson	Dr. J. G. Waldrop.	Wayne.....	Dr. Williams Spicer.
Hertford	Dr. J. H. Mitchell.	Wilkes.....	Dr. W. P. Horton.
Hyde	Dr. E. H. Jones.	Wilson.....	Dr. W. S. Anderson.
Iredell	Dr. M. R. Adams.	Yadkin	Dr. T. R. Harding.
Jackson.....	Dr. R. L. Davis.	Yancey	Dr. J. L. Ray.
Johnston	Dr. Thel Hooks.		

[You are asked to fill out and mail one of these forms to the Superintendent of Health of your county on or before the third of each month, that he may use it in making his report to the Secretary of the State Board.]

Have any of the following diseases occurred in your practice during the month just closed. If so, state number of cases.

Whooping-cough ----- Typhoid Fever -----

Measles ----- Typhus Fever -----

Diphtheria ----- Yellow Fever -----

Scarlet Fever ----- Cholera -----

Pernicious Malarial Fever ----- Smallpox -----

Hemorrhagic Malarial Fever ----- Cerebro-spinal Meningitis -----

What have been the prevailing diseases in your practice?

Has any epidemic occurred among domestic animals? If so, what?

What is the sanitary condition of your section, public and private?

General Remarks:-----

----- M. D.

----- 190 ----- N. C.

BULLETIN

OF THE

North Carolina Board of Health.

Published Monthly at the Office of the Secretary of the Board, Raleigh, N. C.

GEO. G. THOMAS, M. D., *Pres.*, Wilmington.
S. WESTRAY BATTLE, M. D., Asheville.
HENRY W. LEWIS, M. D., Jackson.
J. L. NICHOLSON, M. D., Richlands.

W. P. IVEY, M. D., Lenoir.
FRANCIS DUFFY, M. D., New Bern.
W. H. WHITEHEAD, M. D., Rocky Mt.
J. L. LUDLOW, C. E., Winston.

RICHARD H. LEWIS, M. D., *Secretary and Treasurer*, Raleigh.

VOL. XVIII.

DECEMBER, 1903.

No. 9.

Amendment to Medical License Law Unconstitutional.

For the first time since the enactment of the original medical license law in 1859 the cause of medical progress and of the protection of the public health has received a serious back-set. For forty-four years old North Carolina has been marching in the very vanguard of medical progress, but our Supreme Court, in its recent decision in the case of *State v. Biggs*, declaring the amendment to the license law defining the practice of medicine and surgery enacted by the last Legislature to be unconstitutional, has deprived us of that proud position.

It was thought that the old law was sufficient to protect our people against quackery, but the decision in *State v. McKnight* last year showed that opinion to be unfounded. This decision, while regarded as a very serious blow to the medical license law, we hoped was temporary and remediable. The amendment referred to was designed to remedy this

weakness. It failed of its object, but the original law, which insures a high standard of excellence in the regular medical profession, remains in full force.

The decision in *State v. Biggs* seems to have been based chiefly upon the grounds that the Legislature had no right to define anything that was defined in the dictionaries, and that the amendment created a monopoly in the interest of the regular medical profession. The opinion is expressed that the amendment was "evidently drafted" in their interest, they being considered as "promoters," and therefore subject to as strong a construction of the law against them as possible—that it was not drafted "solely in the interest of the public."

Being no lawyer, we cannot argue the matter from the legal stand-point, but in this connection we wish to say that the bill was submitted to some of the ablest lawyers in the State outside of the Legislature; that that body contained a large number of lawyers, including some of our best, and that the only suggestion

that the proposed amendment was unconstitutional that we heard came from the paid attorneys of the Christian Scientists. We can only look at it as a man of common sense, having, if he knows himself, the health interests of the people at heart first, and secondarily and incidentally of the profession which by similar legislation in this and other States has been made worthy of the confidence and admiration of the people. We believed—and still believe—most sincerely that one of the greatest menaces to the public health, with the protection of which as executive officer of the State Board of Health we were officially charged, was the incompetent physician. We were yet more certain that those who had never made a serious study of the structure and functions of the human body, nor of the best systems, according to the experience of the ages, of treating its ills—in large part ignorant imposters and exploiters of the credulity of the people for gain—were still more dangerous. We therefore felt it to be our duty, as the State's health officer, to do our best to protect the people against this danger.

The able and learned Chief Justice, in his opinion, says: "The Legislature could no more enact that the 'practice of medicine and surgery' shall mean 'practice without medicine and surgery' than it could provide that 'two and two make five,' because it cannot change a physical fact"; and that "the act essays to change the meaning of the words to be found in every dictionary." We do not so read the dictionaries.

We quote the definition of "Medicine" as given in the five dictionaries universally recognized as of the highest authority, as follows:

Century Dictionary: "1. A substance

used as a remedy for disease; a substance having, or supposed to have, curative properties; hence, figuratively, anything that has a curative or remedial effect."

Standard: "2. The healing art; the science of the preservation of health and of treating disease for the purpose of cure."

Webster: "1. The science which relates to the prevention, cure, or alleviation of disease."

Worcester: "2. That branch of physic which relates to the healing of disease (Dunglison)."

Stormonth: "[O. F. *Medicine* from L. *medicina*, the healing art, medicine], anything administered for the cure or mitigation of disease; the art of curing or alleviating disease; the practice and faculty of medicine."

In the light of the above we think, with all due respect to the honorable Court, that the expression "practice of medicine" can be fairly construed to mean the cure or alleviation of disease by any method. And in this view we are sustained by the Supreme Court of Alabama, which recently, in a very able opinion, held that the practice of osteopathy, "drugless healing," similar to that practiced by Biggs, was "practicing medicine."

As to the question of the amendment's creating a monopoly in the interest of the regular medical profession, we are unable to see how it creates a monopoly any more than the requirement of license from lawyers, dentists and marine engineers, for example, creates a monopoly in their interest. If there is any monopoly it is simply the monopoly necessarily incident to excellence. How can it be a monopoly when, to quote the words of one of the ablest lawyers in the State

whom we consulted about the bill, "the doors of the medical profession are open to every class, race and sex, without regard to birth or station in life, upon the doing of three things: First, proving a good moral character, proving competence, and paying the tax required by the State"?

In the conclusion of the opinion the Court says: "All the law can do is to regulate and safeguard the use of powerful and dangerous remedies, like the knife and drugs, but it cannot forbid dispensing with them."

How it can be held that the law "forbids dispensing" with the knife and drugs simply passes our lay comprehension. As we understand the science and art of medicine and surgery, *the most essential part of it is the ability to diagnose the disease by a thorough knowledge of the history and symptoms of disease and of the most approved methods of getting at the symptoms—to tell what the disease is—and then to decide in accordance with the experience of those best fitted to know whether to use drugs, the knife, massage, electricity, suggestion, diet, fresh air and sunshine, change of scene, etc.—or nothing—all used by the regular physician or omitted, as he thinks best.* If the object of the law is to safeguard the lives and health of the people, it is certainly very ineffective as construed by our Court when it permits any person whatsoever, be he ever so ignorant or unprincipled, to assume the care and responsibility of a case of disease, no matter how dangerous or contagious. It wouldn't make much difference to the patient and his friends, we presume, whether he was killed by a powerful drug or a misused knife or by the failure to use at the critical time a sure remedy familiar to the well-informed physician.

But it is in the contagious and infectious diseases that the inability to make the diagnosis would be most disastrous, not only to the patient himself, as, *e. g.*, in diphtheria, but to whole communities, by failure to take the proper sanitary precautions.

Our highest legal tribunal has spoken, and we bow to its decision, but we must say that to our ordinary lay common sense it seems mighty queer law, or construction of law, that will require highly educated physicians to prove their competency to assume the care and responsibility of the sick, and then throw wide open the doors and invite all the ignorant and often unprincipled quacks, who merely abjure drugs and the knife, the two great remedies for disease, to come in and prey upon our people. To paraphrase the words of one of our old North Carolina judges in his charge to a jury in a case of another character: "It may be good law, gentlemen of the jury, but it is durned poor equity"—both to the people and the medical profession.

At the end of the opinion it is stated that two of the Justices "concur in the conclusions," from which we are glad to suppose that they at least do not endorse the method of reasoning or the style of presenting the subject.

The Health Conscience—Pneumonia.

In our reading on sanitary subjects we see nothing better than the weekly Bulletin of the Health Department of Chicago. Arthur R. Reynolds, M. D., Commissioner, and, presumably, editor. We were very much impressed by the strong, and at the same time bright and entertaining, remarks on this subject quoted in the Bulletin of the last week in November from the presidential ad-

dress of Dr. John S. Billings at the meeting of the American Public Health Association at New Orleans in 1880. That was a good many years ago, but the advice is just as sound and applicable now as then, and there will never come a time, we fear, when it will not be needed. As we have said before in these columns, there is a marked parallelism between hygiene and religion in some respects. A violation of the principles of hygiene, the code of health, means physical disease; and a failure to observe the moral code means sin or spiritual disease. The lions in the path of progress in both cases are enough alike to be twins—a want of faith and self-indulgence. So there is need for a health conscience as well as a conscience in the usual acceptance of the word. If the great teachers of the people—ministers, editors and school-teachers—will take this matter up, very much can be done for the development of this “health conscience,” and the welfare and happiness of the people be greatly enhanced:

THE HEALTH CONSCIENCE.

“Thanksgiving day,” writes a pioneer sanitarian of the vintage circa, 1870, “finds me again in a retrospective mood, and as I lay aside our last week’s Bulletin after a reperusal, I am minded to say it was not necessary to go so far afield as Scotland nor to my old friend Clouston for a preachment on the development of a ‘health conscience.’ There are those still living who heard the presidential address of John S. Billings at the New Orleans meeting of the American Public Health Association in 1880, and have not yet forgotten his comments on the education of the public as to the importance of sanitary measures—the very essence of the

‘health conscience’—and the work in this direction carried on ‘not only by physicians, but by the pulpit and the press.’

“Among other things he said: ‘The growing interest of the clergy in public-health matters is very satisfactory, since it is desirable, for the sake of both religion and hygiene, that clergymen of all denominations should be practical sanitarians.

“‘Foul air, food badly cooked, impure water-supply, and dirty skins are responsible for a vast amount of sin and crime, and ignorance and filth are Siamese twins.

“‘All clergymen recognize these facts in a theoretical sort of way; but many of them do not see that it is their duty to qualify themselves to give to their parishioners practical advice to secure cleanliness as well as godliness. Nor is the necessity for such advice confined by any means to the occupants of shanties and tenement houses. The health and cheerfulness, and consequently the morality, of the families of many of those who pay for the best pews in our most fashionable churches, would be greatly improved if they had purer air to breathe in their homes. A faulty system of house drainage will produce, not only actual sickness and death, but lassitude, want of appetite, weariness and fretfulness, dissatisfaction among and with the servants, and a pessimistic state of mind with regard to things in general, upon which the weekly sermon will have very little influence. Let the clergyman learn to recognize the real, palpable, material bogies which lie in his path, and how these are to be destroyed or driven away; let him obtain sufficient knowledge of the laws of physics, physiology and existence, to keep him from certifying blindly to the efficiency of patent

nostrums of various kinds; let him understand the difference between skin-plumbing and good work, between a properly ventilated church and one in which the occupants run great risk of either headache or a cold; and it is safe to say that he will have doubled his usefulness.

"Continuing he added, with that touch of humor which so often lights up his most serious efforts:

"The daily or weekly newspaper is also doing effective work in diffusing sanitary information in this country. A collection of the various articles on drainage, sewerage, water-supply and other matters relating to public health, published in the news or editorial columns of such journals during the year, fills several large volumes.

"At first sight an examination of this mass of matter might lead one to think, that, as an indication of progress, it is a little like the register which the ingenious Irishman obtained from his gas-meter after he had put it on upside down, and so managed to bring the company in debt to him at the end of the month."

"You do well, Mr. Commissioner, to pat both the press and the pulpit on the back in this matter. It may be expected that in the course of time, if you persist, the pulpit will devote as much effort, relatively, to the development of a 'health conscience' as the press is now doing; and, possibly, with a discernment which will save its efforts from the Irishman's gas-meter comparison."

One of the methods pursued by the Department for the development of the "health conscience" is indicated by the following letter—a type of dozens of such written every day by the heads of Divis-

ions and Bureaus in their respective lines of work:

_____, M. D.,
Chicago.

DOCTOR:—On November 6th you reported two cases of scarlet fever, one at _____ Diversey blvd., and one at _____ Burling St. You "assumed the responsibility" of preventing the spread of contagion from these cases. Yesterday we received the termination card from you stating that disinfection by the Department "is not requested."

An investigation of these two cases shows that the house at _____ Diversey blvd., was renovated and properly disinfected, but that the patient was permitted to leave the city after she had been sick but two weeks with scarlet fever. This is just at the beginning of the desquamating stage, when the disease is most likely to be conveyed to others. Nothing but a mistaken diagnosis would justify any doctor in releasing from restraint a case reported as scarlet fever in two weeks from the date of the beginning of the attack.

If an outbreak of scarlet fever at Oconomowoc results from letting this patient go to that city, while still scaling, the odium resulting from such a breach of ordinary care in handling a contagious disease will be upon you.

In the other case at _____ Burling St., where no disinfection was requested, we learn that some sort of an attempt at disinfection was made, but that the child is now desquamating and of course in the worst stage of the disease for disseminating contagion.

What explanation have you to make for such flagrant misuse of the privilege granted reputable physicians of "assuming the responsibility" in cases of contagious diseases?

We have notified the health officers of Oconomowoc of the danger, so they can isolate the _____ child at her home.

A "warning card" will be posted upon the house at _____ Burling St., until the patient is safe to mingle with others.

Inclosed please find a circular with information upon the subject of contagious diseases. The period of isolation in scarlet fever is from four to eight weeks. It is not often that a case is

safe to mingle with others after only four weeks. Six weeks is always safer.

Yours truly,

HEMAN SPALDING, M. D.,
Chief Medical Inspector.

As a fitting pendant to the foregoing is the following, received the same date, from a lady living in one of the best residence districts:

— Prairie Avenue.
November 25, 1903.

DR. A. R. REYNOLDS,
Health Commissioner.

DEAR SIR:—While I have every confidence in Dr. ———, who is attending my daughter, afflicted with diphtheria, and in his ability to protect others from the spread of contagion, I still wish you would have your warning cards posted on my residence, both the "Diphtheria Here" card and the warning to the milkman.

I should never forgive myself if any one else were to contract diphtheria through any neglect on my part.

Very sincerely,

Mrs. ———.

Ten years ago the warning card would have been resisted and the physician would have neglected to report the case. A health conscience is surely developing.

Pneumonia apparently is coming to be our most fatal disease and is thought by some to be worthy even now of the title conferred by Bunyan on tuberculosis, "Captain of the Men of Death." Certainly it is one of our most fatal diseases. It is an infectious disease. Its ravages can be stayed, to some extent, at least, by proper precautions. The season of its greatest activity is upon us. We therefore give also a most excellent article on the subject from another issue of the same Bulletin:

PNEUMONIA.

"Pneumonia, like so many other of the ills that modern mortal flesh is heir to,

is a disease of civilization—and Civilization itself is a Disease, according to the dicta of a modern school of philosophy.*

"Pneumonia is a disease begotten of over-housing, over-crowding, over-clothing, over-eating and drinking, over-coddling—all the hygienic defects of civilized life which make for the weakening of natural vital resistance to the attacks of the myriads of invisible foes that are harmless to the normal healthy individual, whose normal healthy blood is constantly producing substances antagonistic to the activity and the poisons of the disease-producing organisms.

"Considered from this viewpoint, attempts to restrict the ravages of pneumonia seem to be a hopeless undertaking. And yet, hopeless as it seems, it is clearly the duty of the sanitarian and the worker in the field of preventive medicine to do what in him lies toward education in the precepts of healthful living.

"A simpler housing, with abundant facilities for the access of sunshine and fresh air, and space enough for each individual; a simpler raiment, which shall preserve the natural power of the skin to resist the effects of draughts and chills and "colds"; a simpler dietary, which shall not overtax the digestive system, and less cookery, so that the teeth may have sufficient exercise to prevent their premature decay; more exercise in the open air, and, in general, a resort to the simpler and more natural modes of life to which each and every one of us was born, and out of which each and every one of us is removed as promptly as civilization can act.

"There is already a hopeful tendency in

*Civilization: Its Cause and Cure. By Edward Carpenter, London, 1897.

this direction. As Mr. Carpenter points out: "The Nature-movement, begun years ago in literature and art, is now, among the more advanced sections of the civilized world, rapidly realizing itself in actual life * * * and developing into a gospel of salvation by sandals and sunbaths!"

"When this gospel, these good tidings, have become active in the daily life, pneumonia, consumption and all the other unnumbered ills, the results of our present stage of civilization—shall lose their terrors. To the preaching of this gospel the pulpit and press, physician and layman should address themselves both by precept and example.

"And in this connection it should be borne in mind that whatever is done for the restriction of consumption is also done for the restriction of pneumonia. The general principles underlying the "anti-tuberculosis crusade" are equally applicable to the fight against this newer "Captain of the Men of Death."

"Among the many valuable suggestions for the restriction of pneumonia contributed by the members of the medical staff of the Department at the request of the Commissioner, in accordance with the action had at the mid-week conference of October 28, that concerning the role of the tonsils in the development of pneumonia, as well as other infectious disease, is of sufficient importance to warrant mention in the present Bulletin, without delaying for the publication of the circular in which all the suggestions will be embodied.

"Medical Inspector, Dr. W. J. Class, writes:

"About four years ago Dr. W. S. Christopher and myself made a rather exhaustive study of pneumococcus sore

throat, both bacteriologically as well as clinically. The cases were mostly in children, but the observations which I made in adults were similar in result though not in number. Our observations showed that a great number of the transient febrile ailments occurring in childhood, and whose etiologic factor had escaped recognition, were in reality cases of pneumococcus infection of the tonsils and pharynx. Dr. Christopher addressed the Pediatric Society upon this subject.

"Following up this form of investigation, it occurred to me that it was quite possible that the pneumococci might enter the system by way of the tonsils and in this way cause pneumonia; or, at any rate, that by finding a favorable medium for their growth upon the tonsils they could here attain such a degree of virulence that when by some means they entered the lungs pneumonia would result. My observation of a considerable number of pneumonia cases showed that this tonsillitis very frequently preceded the pneumonia and that the tonsillitis was of pneumococcus origin.

"I do not think sufficient stress has been put upon this preliminary angina. As a result of these observations I think it plausible that a considerable proportion of pneumonia cases could be aborted if the germs were destroyed in the pharynx by means of antiseptic gargles, or sprays, and that no sore throat, however mild it might appear, should be neglected, as it may possibly be the precursor of an attack of pneumonia."

"With an increase of 48 per cent. in the death rate from heart diseases during the last fourteen years—that is, since 1889, the beginning of the influenza pandemic—over the rate in the previous

fourteen years, the following editorial comments by Dr. Harold N. Moyer, in his journal. *Medicine*, for November, 1903, are pertinent and still further condemn the useless and mischievous tonsil. Not all of this increase is due to rheumatism; pneumonia is frequently followed by heart lesions; but the infections of both diseases no doubt frequently find access to the system through diseased tonsils:

"If it can be shown that the tonsil has a relation to rheumatism, with all of the disastrous effects that this disease has upon the heart and circulation, it is a striking indication for the removal of the tonsils. These organs are readily open to inspection, and there is now no question but that hypertrophies and frequent inflammations of the structures call for their removal.

"The same is true, however, of diseased tonsils if they are not enlarged, and even if they apparently give the individual little trouble. Their crypts may be the seat of chronic inflammation without much enlargement, and it is highly probable that such diseased tonsils are a source of grave danger to the individual.

"The profession should be alive to the importance of the tonsil in the development of general disease, and they do not perform their whole duty to their clients unless they earnestly urge the prompt removal of all diseased tonsils."

Review of Diseases for November, 1903.

EIGHTY-THREE COUNTIES REPORTING.

Ninety-six counties have Superintendents of Health.

Except in the case of the more contagious and dangerous diseases the Su-

perintendent has, as a rule, to rely upon his own information alone, since few physicians can be induced to report cases of non-contagious diseases to him.

Where the number of cases is not given, or the prevalence of a disease otherwise indicated, its mere presence in the county is to be understood as reported.

For the month of November the following diseases have been reported from the counties named:

MEASLES.—Durham, 1; Guilford, 1; Pitt, 3; Rockingham.

WHOOPING-COUGH.—Brunswick, many; Cabarrus, 1; Caswell, several; Duplin, a few; Durham; Gaston, a few; Granville, 16; Guilford, 4; Henderson, general; Iredell, 4; Martin, many; Onslow, 50; Pitt, 4; Rutherford, 2; Sampson, a few; Surry, 10; Warren, several; Watauga, 30 or 40—18 counties.

SCARLATINA.—Caldwell, 4; Davidson, 1; Forsyth, 38; Gaston, a few; Granville, 1; Henderson, 4; Moore, 2; New Hanover, 11; Person, 2; Randolph, 10 or 15; Rockingham, several; Stanly; Vance, 2; Wake, 1; Wayne, 1 or 2; Wilkes, 13; Yadkin, 2—17 counties.

DIPHTHERIA.—Alamance, 1; Alexander, 10 or 12; Alleghany, in all parts; Ashe, 3; Brunswick, 1; Bunecombe, 1; Carteret, 2; Cleveland, a few; Craven, 2; Cumberland; Durham, 1; Edgecombe, a few; Forsyth, 3; Gaston, a few; Gates, 2; Granville, 2; Lenoir, 3; Martin, 4; Mecklenburg; New Hanover, 10; Northampton, 3; Polk, 1; Rutherford, 2; Stanly; Union, 10; Vance, 2; Wilson, 2—27 counties.

TYPHOID FEVER.—Anson, 1; Ashe, 6; Beaufort, 4; Bertie, 1; Brunswick, 1; Burke, 2; Cabarrus, 2; Caldwell, 2; Caswell, 1; Catawba, 1; Chatham, a few; Cleveland, a few; Craven, 2; Cum-

berland; Durham, 3; Edgecombe, 3; Forsyth, 5; Gaston, a few; Gates, 4; Greene, 1; Guilford, 4; Harnett, many; Haywood, 2; Iredell, 3; Lenoir, several; Lincoln, 3; Macon, 1; Madison, 8; Martin, 6; Mecklenburg; Nash, 3; New Hanover, 4; Northampton, several; Onslow, 1; Pender, a few; Pitt, 2; Randolph, a few; Richmond, a few; Robeson, several; Rockingham, several; Stanly; Surry, 3; Union, 15; Wake, 4; Washington, 1; Wayne, a few; Wilkes, 1; Yadkin, several; Yancey, a few—49 counties.

MALARIAL FEVER.—Bertie; Craven; Currituck, a few; Dare; Gates; Hyde, in all parts; Lenoir, in all parts; Lincoln; Martin; Northampton; Onslow, a few; Pender; Transylvania, a few; Washington—14 counties.

MALARIAL FEVER, PERNICIOUS.—Gates, 2; Martin, 1.

MALARIAL FEVER, HEMORRHAGIC.—Craven, 1; Hyde, 4; Martin, 1; Northampton, 3; Washington, 1—5 counties.

INFLUENZA.—Brunswick; Greene; Guilford; Madison, a few; Randolph; Transylvania, in all parts; Vance, in all parts—7 counties.

MUMPS.—Caswell; Cherokee, 50; Macon, in all parts; Sampson, a few; Transylvania, in all parts; Vance, in all parts—6 counties.

PNEUMONIA.—Alexander; Ashe, some in all parts; Clay, in all parts; Guilford; Harnett; Madison, 2; Person; Watauga—8 counties.

ROSEOLA.—Transylvania.

VARICELLA.—Anson; Robeson.

SMALL-POX.—Alamance, 3; Brunswick, 6, one death; Davidson, 115, 8 deaths between October 15 to December 8, all colored; Davie, 85, reported under control December 1; Durham, 5; Forsyth, 11; Guilford, 1; Harnett, 3; Madi-

son, in the north-western part; Mecklenburg, 1; Perquimans, 14; Polk, 3; Randolph, 1; Rutherford, 2; Surry, 2; Swain, 1; Vance, 3; Wayne, 5; Wilson, 1; Yancey, 1—20 counties.

CHOLERA, IN CHICKENS.—Gates, Martin.

CHOLERA, IN HOGS.—Bertie, Clay, Gates, Hyde, Sampson, Wake, Washington—7 counties.

No diseases reported from Camden, Chowan, Franklin, Jackson, Johnston, McDowell, Pasquotank and Scotland.

No reports received from Bladen, Columbus, Graham, Halifax, Hertford, Jones, Mitchell, Montgomery, Orange, Pamlico, Rowan and Stokes.

Summary of Mortuary Reports for November, 1903.

(TWENTY-EIGHT TOWNS).

	<i>White. Col'd. Total.</i>		
Aggregate population.....	94,950	68,250	163,200
Aggregate deaths..	113	152	265
Representing temporary annual death rate per 1,000.....	14.3	26.7	19.5
<i>Causes of Death.</i>			
Typhoid fever.....	9	4	13
Scarlet fever.....	1	1	2
Malarial fever.....	0	3	3
Diphtheria.....	3	1	4
Whooping-cough...	0	2	2
Pneumonia.....	13	11	24
Consumption.....	12	23	35
Brain diseases.....	4	5	9
Heart diseases.....	9	11	23
Neurotic diseases..	2	5	7
Diarrhoeal diseases	13	13	26
All other diseases..	44	65	109
Accident.....	1	4	5
Suicide.....	2	1	3
	113	152	265
Deaths under five years.....	29	48	77
Still-born.....	5	13	18

Mortuary Report for November, 1903.

TOWNS AND REPORTERS.	RACES.	POPULATION.		TEMPORARY ANNUAL DEATH RATE PER 1,000.																		TOTAL DEATHS.			
		By Races.	Total.	By Races.	Total.	Typhoid Fever.	Scarlet Fever.	Malarial Fever.	Diphtheria.	Whooping-cough.	Measles.	Pneumonia.	Consumption.	Brain Diseases.	Heart Diseases.	Neurotic Diseases.	Diarrheal Diseases.	All Other Diseases.	Accident.	Suicide.	Violence.	By Races.	By Towns.	Deaths under five years.	Still-born.
Charlotte	W. C.	11,000	18,200	14.2	13.8	1	...	...	...	...	...	3	1	...	...	...	5	...	...	...	...	13	21	3	1
Dr. F. O. Hawley.	C.	7,200	...	13.3	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Durham	W. C.	8,000	13,000	21.7	24.9	2	...	...	...	...	...	3	2	1	2	...	...	7	1	...	...	17	27	12	1
Dr. N. M. Johnson.	C.	5,000	...	24.0	...	...	...	...	...	...	...	1	...	1	...	...	...	7	1	...	...	10	5	...	...
Edenton	W. C.	1,200	3,100	10.0	11.6	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	2	3	1	...
Dr. T. J. Hoskins.	C.	1,900	...	12.6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Elizabeth City	W. C.	6,000	10,000	12.0	24.0	1	...	...	...	...	...	1	1	1	1	...	2	3	1	...	...	6	20	3	7
Dr. I. Fearing.	C.	4,000	...	42.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14	7	...	...
Fayetteville	W. C.	2,500	4,800	31.6	22.5	2	...	...	...	...	...	...	...	...	1	...	4	...	...	...	...	7	9	1	...
Dr. A. S. Rose.	C.	2,300	...	10.4	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Goldsboro	W. C.	3,500	6,100	6.9	17.7	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	2	9	1	...
Robt. A. Creech, H. O.	C.	2,600	...	32.3	...	...	...	...	...	...	...	1	2	1	...	...	3	...	...	...	...	7	9	3	...
Greensboro	W. C.	6,100	10,100	3.9	15.0	1	...	...	...	...	...	...	2	2	1	...	1	...	...	...	...	2	13	3	2
Jno. S. Michaux, C. C.	C.	4,000	...	33.0	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	11	3	...	...
Henderson	W. C.	2,100	3,800	22.8	28.4	1	1	...	...	...	...	...	...	1	...	...	2	1	...	...	...	4	9	...	...
Dr. John H. Tucker.	C.	1,700	...	35.3	...	...	...	...	1	...	...	2	1	...	...	...	...	...	...	...	...	5	...	2	...
Laurinburg	W. C.	900	1,500	26.6	16.0	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	2	...	...	...
Dr. G. D. Everington.	C.	600	...	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	...	...	...
Lenoir	W. C.	1,200	1,500	20.0	16.0	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	2	2	...	...
Dr. A. A. Kent.	C.	300	...	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	...	...	...
Lexington	W. C.	800	1,300	0.0	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	0	...	...
J. H. Moyer, Mayor.	C.	500	...	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Marion	W. C.	800	1,200	15.0	10.0	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	1	...	...
Dr. B. L. Ashworth.	C.	400	...	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	...	...	...
Monroe	W. C.	1,850	2,450	6.5	9.8	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	2	...	...
Dr. Jno. M. Blair.	C.	600	...	20.0	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Oxford	W. C.	1,200	2,450	30.0	34.3	...	...	...	...	...	...	...	...	1	1	...	1	...	...	...	...	3	7	...	...
Dr. S. D. Booth.	C.	1,250	...	38.4	...	...	...	...	...	...	...	...	...	1	1	1	...	...	1	...	...	4	...	...	...
Raleigh	W. C.	8,000	13,800	9.0	14.8	...	...	...	...	...	...	...	...	1	...	...	5	...	...	...	...	6	17	1	...
T. P. Sale, Clerk B. H.	C.	5,800	...	24.4	...	...	...	...	...	...	...	...	3	1	...	1	5	1	...	...	...	11	...	...	...
Reldsville	W. C.	2,900	4,200	16.5	17.1	...	...	1	...	...	...	...	...	...	1	...	2	...	...	...	...	4	6	2	1
Chas. Fetzer, Esq.	C.	1,300	...	18.5	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	2	...	1	...
Rocky Mount	W. C.	1,600	3,100	15.0	11.6	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	2	3	1	...
Dr. J. T. Shubrick, H. O.	C.	1,500	...	9.2	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...
Salem	W. C.	3,300	3,650	10.9	16.4	...	...	...	...	...	...	1	2	...	...	...	...	...	...	...	...	3	5	...	...
S. E. Butler, Supt. H.	C.	350	...	68.6	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...
Salisbury	W. C.	3,900	6,400	15.4	18.7	...	...	...	...	...	...	...	2	1	...	2	...	2	...	...	...	5	10	1	1
Dr. H. T. Trantham.	C.	2,500	...	24.0	...	...	...	...	...	...	...	1	...	...	...	2	2	...	...	...	...	5	...	...	...
Southport	W. C.	900	1,400	13.3	17.1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	2	...	...
Dr. D. I. Watson.	C.	500	...	24.0	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...
Tarboro	W. C.	2,000	2,500	6.0	4.8	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	1	...	...
Dr. Wm. J. Thigpen.	C.	00	...	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	...	...	...
Wadesboro	W. C.	1,000	1,700	12.0	7.0	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	1	...	...
Dr. J. H. Bennett.	C.	700	...	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Washington	W. C.	3,000	5,900	16.0	24.4	...	...	...	...	...	...	...	...	1	...	1	2	1	...	...	...	4	12	3	...
Dr. D. T. Taylor.	C.	2,900	...	33.1	...	...	...	...	...	...	...	...	1	3	...	2	2	...	...	...	...	8	...	1	...
Waynesville	W. C.	1,000	1,300	12.0	9.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...
Dr. Thos. Stringfield.	C.	300	...	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	...	...	...
Weldon	W. C.	700	1,450	17.1	16.5	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	3	...	...
J. T. Gooch, Mayor.	C.	750	...	32.0	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	2	...	1	...
Wilmington	W. C.	10,000	21,000	19.2	30.3	...	...	1	...	...	...	3	1	...	1	1	4	5	...	...	...	16	53	5	...
Dr. Chas. T. Harper.	C.	11,000	...	40.4	...	...	1	2	1	...	...	2	4	...	3	5	4	15	...	...	...	37	...	19	6
Wilson	W. C.	3,500	6,800	6.9	17.6	...	...	1	...	...	...	...	...	...	1	...	1	...	...	...	...	2	10	3	...
Dr. W. S. Anderson.	C.	3,300	...	29.1	...	...	...	...	...	...	...	1	...	1	...	1	4	...	...	1	...	8	...	...	...
Winston	W. C.	6,000	10,500	10.0	18.3	...	...	...	...	...	...	...	...	1	1	2	...	1	2	...	...	5	16	3	...
Dr. J. S. Hanes.	C.	4,500	...	29.3	...	2	...	...	...	...	...	2	1	1	2	...	1	2	...	...	...	11	...	4	...

N. B.—The reporters for the cities and towns printed in **Black Type** have signed this certificate: "I hereby certify that this report gives the *whole* number of deaths occurring within the corporate limits during the above month."

County Superintendents of Health.

Alamance	Dr. H. R. Moore.	Jones.....	Dr. N. G. Shaw.
Alexander	Dr. C. J. Carson.	Lenoir	Dr. C. L. Pridgen.
Alleghany	Dr. Robt. Thompson.	Lincoln	Dr. John W. Saim.
Anson	Dr. J. H. Bennett.	McDowell.....	Dr. B. L. Ashworth.
Ashe.....	Dr. Manley Blevins.	Macon	Dr. F. L. Siler.
Beaufort	Dr. D. T. Tayloe.	Madison	Dr. W. J. Weaver.
Bertie	Dr. H. V. Dunstan.	Martin.....	Dr. W. H. Harrell.
Bladen.....	Dr. L. B. Evans.	Mecklenburg.....	Dr. C. S. McLaughlin.
Brunswick	Dr. J. A. McNeill.	Mitchell.....	Dr. V. R. Butt.
Buncombe	Dr. D. E. Sevier.	Montgomery	Dr. M. P. Blair.
Burke.....	Dr. J. L. Laxton.	Moore.....	Dr. Gilbert McLeod.
Cabarrus.....	Dr. R. S. Young.	Nash	Dr. J. P. Battle.
Caldwell	Dr. A. A. Kent.	New Hanover	Dr. W. D. McMillan.
Camden.....	Dr. J. L. Lister.	Northampton.....	Dr. H. W. Lewis.
Carteret	Dr. F. M. Clarke.	Onslow.....	Dr. E. L. Cox.
Caswell	Dr. S. A. Malloy.	Orange.....	Dr. D. C. Parris.
Catawba	Dr. Geo. H. West.	Pamlico.....	Dr. H. P. Underhill.
Chatham.....	Dr. T. A. Kirkman.	Pasquotank	Dr. J. B. Griggs.
Cherokee.....	Dr. B. B. Meroney.	Pender.....	Dr. R. J. Williams.
Chowan.....	Dr. T. J. Hoskins.	Perquimans	Dr. C. C. Winslow.
Clay	Dr. P. B. Killian.	Person	Dr. J. A. Wise.
Cleveland	Dr. B. H. Palmer.	Pitt.....	Dr. Zeno Brown.
Columbus.....	Dr. I. Jackson.	Polk	Dr. C. J. Kenworthy.
Craven.....	Dr. Joseph F. Rhem.	Randolph	Dr. W. J. Moore.
Cumberland.....	Dr. A. S. Rose.	Richmond.....	Dr. F. J. Garrett.
Currituck	Dr. H. M. Shaw.	Robeson	Dr. H. T. Pope.
Dare	Dr. W. B. Fearing.	Rockingham	Dr. Sam Ellington.
Davidson.....	Dr. Joel Hill.	Rowan.....	Dr. W. L. Crump.
Davie	Dr. M. D. Kimbrough.	Rutherford.....	Dr. T. B. Twitty.
Duplin.....	Dr. A. J. Jones.	Sampson	Dr. John A. Stevens.
Durham	Dr. N. M. Johnson.	Scotland	Dr. A. W. Hamer.
Edgecombe	Dr. W. J. Thigpen.	Stanly.....	Dr. V. A. Whitley.
Forsyth.....	Dr. W. O. Spencer.	Stokes	Dr. W. V. McCauless.
Franklin	Dr. E. S. Foster.	Surry	Dr. John R. Woltz.
Gaston.....	Dr. H. F. Glenn.	Swain.....	Dr. A. M. Bennet.
Gates.....	Dr. W. O. P. Lee.	Transylvania	Dr. C. W. Hunt.
Graham	Dr. V. J. Brown.	Tyrrell.....	
Granville	Dr. S. D. Booth.	Union	Dr. John M. Blair.
Greene.....	Dr. C. S. Maxwell.	Vance.....	Dr. H. H. Bass.
Guilford.....	Dr. Edmund Harrison.	Wake.....	Dr. J. J. L. McCullers.
Halifax	Dr. I. E. Green.	Warren.....	Dr. E. M. Gayle.
Harnett.....	Dr. O. L. Denning.	Washington	Dr. W. H. Ward.
Haywood	Dr. J. F. Abel.	Watauga.....	Dr. C. W. Phipps.
Henderson	Dr. J. G. Waldrop.	Wayne.....	Dr. Williams Spicer.
Hertford	Dr. J. H. Mitchell.	Wilkes.....	Dr. W. P. Horton.
Hyde	Dr. E. H. Jones.	Wilson.....	Dr. W. S. Anderson.
Iredell	Dr. M. R. Adams.	Yadkin	Dr. T. R. Harding.
Jackson.....	Dr. R. L. Davis.	Yancey	Dr. J. L. Ray.
Johnston	Dr. Thel Hooks.		

BULLETIN

OF THE

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GEO. G. THOMAS, M. D., *Pres.*, Wilmington.

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HENRY W. LEWIS, M. D.....Jackson.

J. L. NICHOLSON, M. D.....Richlands.

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J. L. LUDLOW, C. E.....Winston.

RICHARD H. LEWIS, M. D., *Secretary and Treasurer*, Raleigh.

VOL. XVIII.

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No. 10.

The Relation of Early Diagnosis and Treatment to the Prevention of Tuberculosis.

BY F. M. POTTENGER, PH. M., M. D.

Los Angeles, California,

President Southern California Anti-Tuberculosis League, etc.

Aside from the measures for strengthening the individual's resisting power and those for the destruction of sputum, there is none which should assume a more important place in our fight against tuberculosis than that of early diagnosis.

If early diagnoses were made the care of the sputum would gradually become less and less a factor (providing there were adequate facilities for treating cases when discovered, and means for supporting the families in case they were dependent upon the ones afflicted); for, with proper care, from 75 to 95 per cent. of early cases should be cured. An early case of tuberculosis is not a source of great danger, but in the later stages,

when expectoration is profuse and bacilli are thrown out by the millions, unless painstaking care is exercised there is some danger. When we remember that every case of this disease arises from a previous one: and that, on an average, each case infects about one new one, then we can see what importance must be attached to early diagnosis, which will place those afflicted under treatment at that time when three-fourths of them should get well.

In order to detect tuberculosis it is not necessary to wait until bacilli appear in the sputum. If these cases should present themselves to a physician who is thoroughly conversant with the disease and who is a master diagnostician, he should be able to determine the presence of the disease in the vast majority of the cases before bacilli appear in the sputum, by the clinical history and physical examination. If not by these, the tuberculin test can be used with confidence and safety.

Too much stress must not be laid upon

physical signs unless the examiner is very expert in making physical examinations, and even then the changes detected will be very slight. Most careful attention, however, must be given to the clinical history. In many a case of incipient pulmonary tuberculosis the patient has come to the physician's office complaining of "being run down," and has been turned away with a few pills and assurances that nothing was the matter. It cannot be impressed upon us too strongly that these early changes are slight and that they produce only very slight symptoms.

The reason that early diagnosis bears such an important relation to the prevention of tuberculosis is because the character of the disease completely changes as it progresses. At first, while it is a pure tuberculosis, it consists, locally, of nothing more than a few tubercles, made up of tubercle bacilli, leucocytes, and proliferated fixed cells, with a very slight irritation of the portion of the lung adjacent, and, constitutionally, of a slight general disturbance caused by the presence of these new growths, as well as by the action of the toxic products of the germs upon the organism.

Later, the whole picture changes. The number of tubercles multiplies. They increase in size. New tissue is invaded. That which at first was a slight irritation becomes a congestion with exudation, and a pneumonic process supervenes. Later still, retrograde process begins. The tubercles soften, break down and form cavities; at first, small; later, quite large, consuming the lung. Other germs enter and cause a mixed infection which makes the picture more complex and the prognosis more grave. Accompanying these gross local pathological changes there are fever, chills, night sweats, loss of appetite, emacia-

tion, prostration more or less severe, and a great depression of all the vital forces. The picture now is not tuberculosis—it is consumption. Tuberculosis is curable; but, in regard to consumption, no one has yet been empowered with the ability to generate new cells. It is true that a certain proportion of cases of consumption (I here use the word in its true meaning, referring only to those cases with advanced retrograde processes in the lung) can be arrested, the patient regaining a measure of health and continuing to live; but absolutely to cure consumption would necessitate the regeneration of new lung cells and the restoration of the organs and vital forces which have suffered during the destructive process. This has never been done, and never will be. Instead of spending time and money trying to find cures for consumption, it would be far more practical and far better, from both a humane and an economic standpoint, to perfect methods of early diagnosis and to educate the laity to seek aid at the first signs of trouble. Until this is done, however, we must continue our work of relief to all who are afflicted.

There are three purposes to be kept in mind in the treatment of communicable diseases:

1. The cure of the patient, if possible.
2. The relief of suffering, whether the case is curable or not.
3. The prevention of the communication of the disease to others.

As regards the disease in question, it has only been a few years that medical men have attempted to cure it. And even to-day a large percentage of them is found who believe it to be incurable. This is due to inadequate knowledge. We have long been in the habit of using

the words tuberculosis and consumption as though they were interchangeable, which is not the case. There are two distinct processes, and we must distinguish between them. In the beginning, when the bacillus and tubercles are the main factors, it is tuberculosis; later, when degenerative processes are present and wasting of tissue is taking place, it is consumption. The former is curable in a very large percentage of cases, the latter fatal in a percentage just as large.

There is one truth, however, which will apply and should be applied to both tuberculosis and consumption, and that is that they are both conditions which should be treated. It is true that in some cases health will be restored without treatment. The same can be said of any disease. In some cases of diphtheria the patients will get well without medical assistance, but that does not justify a "let alone" policy. More will get well with it than without it. Suffering will be lessened and the danger of spreading the disease will be minimized.

Tuberculous patients are, as a rule, apt to be indiscreet. During a portion of the time they feel well and, during this period, are apt to overdo and prejudice their recovery. Then, too, few patients are burdened with so much useless and meddlesome advice as these. As a result, everything is tried, whether rational or irrational, and the early days, when a possibility of cure is present, are frittered away in the vain expectation that patent medicines and neighborly advice will cure the disease. As a rule, the patients reach the physician when suffering from that complex series of symptoms which make up the picture of consumption. The great majority of our patients have been suffering for from

one to three years before they come to us; and, although their stomachs are worn out and their constitutions ruined by indiscretions, yet they hope that medical skill will soon cure them of their supposed "throat trouble." Such a condition could not exist if we treated our patients from the outset. We should guide our patients. We must do it, and we must begin when the disease begins.

The manner in which the medical profession has dealt, and is still dealing, with its tuberculous patients is, to say the least, a great mistake. We are not dealing with them fairly. We are not treating them as we should wish to be treated if we were in their places. If they come to us in the beginning, we are apt to tell them that they have a "tendency to lung trouble," or that their "bronchial tubes" are affected, or that there is a "weak spot" in their lung. To tell a patient such a thing instead of the truth, at the present state of our knowledge of tuberculosis, is little short of criminal. Biggs is quoted as saying, in a recent address: "Thousands, tens of thousands of people die because their physicians have not the moral courage to say to them, 'this is tuberculosis!'" And in the same address: "Tuberculosis is an absolutely preventable disease. It is not only preventable but curable. It is simply a question of how soon a diagnosis is made. If it can be made at the beginning, eighty per cent., at least, of the cases are curable, if placed in a pure atmosphere."

An early diagnosis alone is not sufficient, but a rational plan of treatment must be begun at once. If begun at once we shall cure our patients; if begun later we shall not attain this end so often; but in both cases we shall relieve suffering and train our patients

so that they will not become a source of danger to others.

That is to be considered the proper treatment of either tuberculosis or consumption which corrects all those things that tend to lower the resistance of the individual and relieves the symptoms of the disease by medicinal, mechanical, or specific measures. No matter what remedy is used, it should be reinforced by every means which can be utilized for the advantage of the patient.

Of all methods of treatment, none is so popular as the hygienic, and none is worthy of consideration unless this is at its foundation. It consists of so guiding the patient's life that all the forces of Nature shall contribute toward the upbuilding of his strength and the throwing off of the disease. It includes a life in the open air, a proper regulation of rest and exercise to suit the individual needs, food of a nourishing nature suited to the patient's powers of digestion and systemic demands, and baths with tonic as well as cleansing properties.

When Nature's forces are properly turned to the advantage of the patient there is not much need of medicines. Yet, now and then, we shall find cases, especially in the later stages, when a few well-chosen drugs will benefit very much. At the present time there seems to be a revulsion against that indiscriminate use of drugs which was formerly so common; yet, the use of drugs in the form of general tonics, stomachics, intestinal antiseptics, nebulae and sprays will doubtless always occupy a place in the treatment of tuberculosis, while those for the relief of cough, pain and the extreme weakness of the latter stages will continue to be a God-send to the afflicted.

As specific I would mention those pre-

parations made from the bacillus and its cultures, and also those from the sera of animals rendered immune by inoculation of specific toxins. That these are specific seems to be proved by their selective action upon tuberculous tissue. The use of tuberculin as a diagnostic agent is proof of its specificity. The observations, which are gradually accumulating, where tubercles have disappeared and tuberculous nodules and ulcerations have healed under the use of these remedies, claim for them, at least, the respectful attention of the medical fraternity. That these products have proved disappointing to many observers is due partly to fear and prejudice, partly to the want of a definite plan by which their action can be observed, and partly to the fact that those who have used them have not understood their nature or what was to be expected from them. It must be understood that their specific action is on tuberculosis, and not on consumption.

Whatever plan of treatment is to be carried out, military regimen is necessary for the best success. The patients must be under the absolute control of the physician. He must guide every act of their lives, and make them feel that getting well is their chief business.

Such a course of treatment can best be followed out in a sanatorium; but all cannot go to sanatoria, and there are not accommodations for all, even if they could. While it is scarcely possible to have the same control over patients outside of an institution that can be had in one, these measures, nevertheless, can be carried out with slight modifications, and the patients can be cured, whether they are able to go to sanatoria or not.

That a well conducted sanatorium offers the best chance for recovery from

tuberculosis cannot be denied. Much depends, however, on the medical director of these institutions. He must be a man of strong personality, cheerful and able to impart courage to his patients; interested and able to make them know it.

The first advantage of sanatorium treatment accrues to the patient. He is taken away from business cares and home surroundings, which are apt to make demands upon his strength, and placed in a position where his sole business is that of getting well. He receives better care, because everything is arranged to meet the needs of such patients. The institutions are constructed with special reference to the disease to be treated. The rooms are large, sunny and well ventilated. The diet is well selected to suit the demands of nutrition, which is so important a factor in the treatment of tuberculosis. The sputum is destroyed and cleanliness maintained, so that there is little danger of the patients reinfecting themselves or each other.

The second advantage of institutional treatment accrues to the friends of the ones afflicted. Statistics show that each case, on an average, infects about one other. They also show that the danger of infection varies with the carefulness of the patient. The necessity, therefore, of institutional treatment for the poor is self-evident; for they, with their bad surroundings and meagre facilities for caring for the sick, are sure to scatter infection.

The third advantage of institutional treatment lies in its educational nature. Patients who are treated in these institutions for a period of several months learn habits of care. They profit by the mistakes of others, and avoid many things which would injure them. They

also learn to be careful of others. They understand the necessity of destroying the sputum, and know how to do it. Thus every conscientious inmate of an institution goes forth from it as a missionary, bearing with him a practical knowledge of tuberculosis and of the manner of preventing its spread. This he teaches to his friends, and in this way these institutions are able to reach a wide circle of people in an indirect manner.

That treatment bears an important relation to the prevention of tuberculosis is proved by the reports of those who are attempting to cure the disease. Statistics at hand from various sources, including those of our American sanatoria, show that of 5,415 cases treated 1,719 apparent cures were effected. This means that proper treatment has cured 31.7 per cent. of what was considered only a short time ago an incurable disease. Every case cured lessens the danger of infection, and every one cured before the open stage has been reached is prevented from ever becoming a source of infection. If nearly one-third of the cases can be cured when the statistics include those in the advanced stage of the disease, this percentage could certainly be very materially increased if we could diagnose our cases earlier; and I do not hesitate to say that any rational treatment would double it if the cases were treated in the incipient stage. So, in the light of what has been done by those who are endeavoring to cure tuberculosis, the outlook is most promising. With early diagnosis and immediate treatment, results can be attained as good as those in typhoid fever and pneumonia; so this disease is no longer to be looked upon as hopeless, but as one that will yield readily to proper treatment.—*N. Y. Medical Journal.*

Review of Diseases for December, 1903.**EIGHTY-TWO COUNTIES REPORTING.**

Ninety-six counties have Superintendents of Health.

Except in the case of the more contagious and dangerous diseases the Superintendent has, as a rule, to rely upon his own information alone, since few physicians can be induced to report cases of non-contagious diseases to him.

Where the number of cases is not given, or the prevalence of a disease otherwise indicated, its mere presence in the county is to be understood as reported.

For the month of December the following diseases have been reported from the counties named:

MEASLES.—Cherokee, 15; Durham; Gaston, a few; Granville, 6; Wake, 5; Wilkes, 4; Yancey, several—7 counties.

WHOOPING-COUGH.—Brunswick, many; Caldwell, 6; Craven, 1; Duplin, a few; Durham, a few; Edgecombe, a few; Forsyth, many; Gaston, a few; Graham, about 250; Granville, 8; Harnett, a few; Henderson, a few; Iredell, 2; Martin; Nash, 5; Onslow, 50; Pitt, 3; Randolph, a few; Rutherford, a few; Sampson; Surry, 5; Wake, 35; Warren, a few—21 counties.

SCARLATINA.—Brunswick, 3; Cleveland, 1; Forsyth, 18; Gaston, 1; Granville, 1; Guilford, 1; McDowell, 1; New Hanover, 3; Randolph, several; Rockingham, many; Vance, 2—11 counties.

DIPHTHERIA.—Alamance, 1; Alexander, a few; Brunswick, 2; Cabarrus, 1; Carteret, 2; Cleveland, a few; Craven, 3; Cumberland, 6; Currituck, 3; Durham,

1; Edgecombe, 2; Forsyth, 4; Gaston, several; Granville, 2; Halifax, 2; Harnett, a few; Haywood, 1; Lenoir, 2; McDowell, 1; Mecklenburg; Moore, 4; Nash, 2; New Hanover, 1; Northampton, 2; Onslow, 8; Pitt, 4; Randolph, a few; Stanly; Union, 3; Vance, 2; Warren, 4—31 counties.

TYPHOID FEVER.—Bertie, 1; Bladen, 1; Cabarrus, 1; Caldwell, 1; Chatham, a few; Cumberland; Edgecombe, 3; Gaston, a few; Gates, 1; Harnett, a few; Haywood, 1; Iredell, 2; McDowell, 1; Mecklenburg; Nash, 4; New Hanover, 2; Onslow, 1; Pitt, 1; Randolph, 3; Robeson, a few; Rockingham; Stanly; Union, 10; Vance, 6; Wake, 5; Wilkes, 2; Yancey—27 counties.

MALARIAL FEVER.—Bertie, many; Craven; Franklin; Hyde; New Hanover; Wake—6 counties.

MALARIAL FEVER, PERNICIOUS.—Wake.

MALARIAL FEVER, HEMORRHAGIC.—Hyde, 1; New Hanover, 1.

INFLUENZA.—Brunswick; Currituck; Duplin, a few; Gates; Lenoir; Onslow, a few; Pender, in all parts; Person; Sampson; Stanly; Transylvania and Vance, in all parts—12 counties.

MUMPS.—Forsyth; Macon; Sampson.

PNEUMONIA.—Alexander; Anson, in all parts; Burke, a few; Caswell, in all parts; Clay; Currituck; Graham, in all parts; Greene, in nearly all parts; Harnett; Moore, Onslow, a few; Person; Richmond; Rockingham, in all parts; Scotland; Stanly—15 counties.

RHEUMATISM.—Watauga.

ROTHELN.—Sampson.

TONSILLITIS.—Currituck.

VARICELLA.—Burke, in all parts; Macon.

SMALL-POX.—Alamance, 16; Buncombe, 10; Caswell, 1; Chowan, 1; Cleveland, 1; Cumberland, 3; Davidson, 120; Davie, 8; Durham, 5; Forsyth, 24; Jackson, 12; McDowell, 4; Madison, in western part; Pitt, 8; Polk, 8; Randolph, 4; Robeson, 2 or 3 dozen; Rockingham, 12; Rutherford, 7; Stanly, 1; Surry, 1; Swain, 2; Wilkes, 10; Wilson, 3; Yancey, 2—25 counties.

CHOLERA, IN HOGS.—Brunswick; Duplin; Hyde; Sampson; Washington.

DISTEMPER, IN HORSES.—Burke; Swain.

No diseases were reported from Camden, Catawba, Dare, Johnston, Pasquotank and Wayne.

No reports were received from Alleghany, Ashe, Beaufort, Columbus, Hertford, Jones, Lenoir, Mitchell, Montgomery, Orange, Pamlico, Perquimans, Rowan and Stokes.

**Summary of Mortuary Reports for
December, 1903.**

(TWENTY-EIGHT TOWNS).

	White.	Col'd.	Total.
Aggregate population.....	100,750	71,350	172,100
Aggregate deaths..	116	136	252
Representing temporary annual death rate per 1,000.....	13.8	22.9	17.6
<i>Causes of Death.</i>			
Typhoid fever.....	1	5	6
Malarial fever.....	0	1	1
Diphtheria.....	2	0	2
Whooping-cough...	0	1	1
Pneumonia.....	18	29	47
Consumption.....	16	14	30
Brain diseases.....	11	2	13
Heart diseases.....	14	7	21
Neurotic diseases...	7	5	12
Diarrhœal diseases	3	7	10
All other diseases..	36	60	96
Accident.....	7	5	12
Suicide.....	1	0	1
	116	136	252
Deaths under five years.....	18	48	66
Still-born....	8	16	24

Mortuary Report for December, 1903.

TOWNS AND REPORTERS.	RACES.	POPULATION.		TEMPORARY ANNUAL DEATH RATE PER 1,000.		Typhoid Fever.	Scarlet Fever.	Malarial Fever.	Diphtheria.	Whooping-cough.	Measles.	Pneumonia.	Consumption.	Brain Diseases.	Heart Diseases.	Neurotic Diseases.	Diarrhoeal Diseases.	All Other Diseases.	Accident.	Suicide.	Violence.	Total Deaths.		Deaths under five years.	Still-born.
		By Races.	Total.	By Races.	Total.																	By Races.	By Towns.		
Asheville	W.	8,000	13,000	4.5	9.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dr. C. V. Reynolds.	C.	5,000		16.8		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Charlotte	W.	11,000	18,500	6.6	17.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dr. F. O. Hawley.	C.	7,200		33.3		3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Durham	W.	8,000	13,000	24.0	24.0	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dr. N. M. Johnson.	C.	5,000		24.0		...	...	...	...	...	2	1	1	3	...	...	...	...	...	...	...	...	...	...	...
Edenton	W.	1,200	3,100	10.0	7.7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dr. T. J. Hoskins.	C.	1,900		6.3		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Elizabeth City	W.	6,000	10,000	14.0	15.6	...	...	...	...	...	...	...	...	1	2	1	...	1	...	...	...	...	...	...	...
Dr. I. Fearing.	C.	4,000		18.0		...	...	1	...	...	...	...	...	1	...	...	3	...	1	...	1	...	...	...	...
Fayetteville	W.	9,500	4,800	9.6	17.5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dr. A. S. Rose.	C.	2,300		26.1		...	...	...	...	...	1	...	...	...	...	...	...	...	2	2	...	...	...	...	...
Goldsboro	W.	3,500	6,100	6.8	5.9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Robt. A. Creech, H. O.	C.	2,600		4.6		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Greensboro	W.	6,100	10,100	31.5	38.0	1	...	...	...	...	...	2	...	3	...	...	...	1	9	...	...	...	...	...	...
Jno. S. Michaux, C. C.	C.	4,000		48.0		1	...	...	...	...	3	2	...	...	...	...	1	7	...	...	...	...	...	...	...
Henderson	W.	2,100	3,800	11.4	6.3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dr. John H. Tucker.	C.	1,700		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Laurinburg	W.	900	1,500	26.7	32.0	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Dr. G. D. Everington.	C.	600		40.0		...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...
Lenoir	W.	1,200	1,500	0.0	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dr. A. A. Kent.	C.	300		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lexington	W.	800	1,300	0.0	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
J. H. Moyer, Mayor.	C.	500		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Marion	W.	800	1,200	30.0	20.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...
Dr. B. L. Ashworth.	C.	400		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Monroe	W.	1,850	2,450	13.0	9.8	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Dr. Jno. M. Blair.	C.	600		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Oxford	W.	1,200	2,450	0.0	9.8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dr. S. D. Booth.	C.	1,250		19.5		...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...
Raleigh	W.	8,000	13,800	15.0	23.5	...	...	...	...	...	...	1	2	...	3	...	...	...	2	1	...	...	...	...	...
T. P. Sale, Clerk B. H.	C.	5,800		35.2		...	...	...	...	...	...	2	5	1	2	...	...	1	5	1	...	...	...	...	...
Rocky Mount	W.	1,700	2,100	0.0	7.7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dr. J. T. Shubrick, H. O.	C.	1,400		17.1		...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Salem	W.	3,300	3,650	3.6	3.3	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
S. E. Butner, Supt. H.	C.	350		0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Salisbury	W.	3,900	6,400	15.4	13.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dr. H. T. Trantham.	C.	2,500		9.6		...	...	...	...	...	...	3	1	...	...	...	...	...	...	...	...	...	...	...	...
Southport	W.	900	1,400	26.6	17.1	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...
Dr. D. I. Watson.	C.	500		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tarboro	W.	2,000	2,500	12.0	33.6	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dr. Wm. J. Thigpen.	C.	500		120.0		...	...	...	...	...	...	1	1	...	...	...	...	...	1	...	...	...	...	...	...
Wadesboro	W.	1,000	1,700	36.0	35.3	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...
Dr. J. H. Bennett.	C.	700		34.3		...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Washington	W.	3,300	,000	21.8	16.0	...	...	...	...	...	...	1	1	1	...	...	...	...	3	...	...	...	...	...	...
Dr. D. T. Tayloe.	C.	2,700		8.9		...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Waynesville	W.	1,000	1,300	36.0	27.7	...	...	...	...	...	...	1	1	...	1	...	...	...	...	...	...	...	...	...	...
Dr. Thos. Stringfield.	C.	300		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Weldon	W.	700	1,450	0.0	8.3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
J. T. Gooch, Mayor.	C.	750		16.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Wilmington	W.	10,000	21,000	21.6	24.5	...	...	...	...	...	...	4	2	...	4	3	1	4	...	...	...	...	...	...	...
Dr. Chas. T. Harper.	C.	11,000		27.3		1	...	...	...	...	...	6	3	...	2	2	1	9	...	...	...	...	...	...	...
Wilson	W.	3,800	6,800	3.1	.3	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
Dr. W. S. Anderson.	C.	3,000		8.0		...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...
Winston	W.	6,000	10,500	8.0	13.7	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...
Dr. J. L. Hanes.	C.	4,500		21.3		...	...	...	...	...	...	3	1	...	1	...	1	2	...	...	...	...	...	...	...

N. B.—The reporters for the cities and towns printed in **Black Type** have signed this certificate: "I hereby certify that this report gives the *whole* number of deaths occurring within the corporate limits during the above month."

* In addition one non-resident, white, died of typhoid fever.

County Superintendents of Health.

Alamance	Dr. H. R. Moore.	Jones.....	Dr. N. G. Shaw.
Alexander	Dr. C. J. Carson.	Lenoir	Dr. C. L. Pridgen.
Alleghany	Dr. Robt. Thompson.	Lincoln	Dr. John W. Saim.
Anson	Dr. J. H. Bennett.	McDowell	Dr. B. L. Ashworth.
Ashe.....	Dr. Manley Blevins.	Macon	Dr. F. L. Siler.
Beaufort	Dr. D. T. Tayloe.	Madison	Dr. W. J. Weaver.
Bertie	Dr. H. V. Dunstan.	Martin.....	Dr. W. H. Harrell.
Bladen.....	Dr. L. B. Evans	Mecklenburg.....	Dr. C. S. McLaughlin
Brunswick	Dr. J. A. McNeill.	Mitchell.....	Dr. V. R. Butt.
Buncombe	Dr. D. E. Sevier.	Montgomery	Dr. M. P. Blair.
Burke.....	Dr. J. L. Laxton.	Moore.....	Dr. Gilbert McLeod.
Cabarrus.....	Dr. R. S. Young.	Nash	Dr. J. P. Battle.
Caldwell	Dr. A. A. Kent.	New Hanover	Dr. W. D. McMillan.
Camden.....	Dr. J. L. Lister.	Northampton.....	Dr. H. W. Lewis.
Carteret	Dr. F. M. Clarke.	Onslow.....	Dr. E. L. Cox.
Caswell	Dr. S. A. Malloy.	Orange.....	Dr. D. C. Parris.
Catawba	Dr. Geo. H. West.	Pamlico.....	Dr. H. P. Underhill.
Chatham.....	Dr. T. A. Kirkman.	Pasquotank	Dr. J. B. Griggs.
Cherokee.....	Dr. B. B. Meroney.	Pender.....	Dr. R. J. Williams.
Chowan.....	Dr. T. J. Hoskins.	Perquimans.....	Dr. C. C. Winslow
Clay	Dr. P. B. Killian.	Person	Dr. J. A. Wise.
Cleveland	Dr. B. H. Palmer.	Pitt.....	Dr. Zeno Brown.
Columbus.....	Dr. I. Jackson.	Polk	Dr. C. J. Kenworthy.
Craven.....	Dr. Joseph F. Rhem.	Randolph	Dr. W. J. Moore.
Cumberland.....	Dr. A. S. Rose.	Richmond.....	Dr. F. J. Garrett.
Currituck	Dr. H. M. Shaw.	Robeson	Dr. H. T. Pope.
Dare	Dr. W. B. Fearing.	Rockingham	Dr. Sam Ellington.
Davidson.....	Dr. Joel Hill.	Rowan.....	Dr. W. L. Crump.
Davie	Dr. M. D. Kimbrough.	Rutherford.....	Dr. T. B. Twitty.
Duplin	Dr. A. J. Jones.	Sampson	Dr. John A. Stevens.
Durham	Dr. N. M. Johnson.	Scotland	Dr. A. W. Hamer.
Edgecombe	Dr. W. J. Thigpen.	Stanly.....	Dr. V. A. Whitley.
Forsyth.....	Dr. W. O. Spencer.	Stokes	Dr. W. V. McCannless.
Franklin	Dr. E. S. Foster.	Surry	Dr. John R. Woltz.
Gaston.....	Dr. H. F. Glenn.	Swain.....	Dr. A. M. Bennet.
Gates.....	Dr. W. O. P. Lee.	Transylvania	Dr. C. W. Hunt.
Graham	Dr. V. J. Brown.	Tyrrell.....	
Granville	Dr. S. D. Booth.	Union	Dr. John M. Blair.
Greene.....	Dr. C. S. Maxwell.	Vance.....	Dr. H. H. Bass.
Guilford.....	Dr. Edmund Harrison.	Wake.....	Dr. J. J. L. McCullere.
Halifax	Dr. I. E. Green.	Warren.....	Dr. E. M. Gayle.
Harnett.....	Dr. O. L. Denning.	Washington	Dr. W. H. Ward.
Haywood	Dr. J. F. Abel.	Watauga.....	Dr. C. W. Phipps.
Henderson	Dr. J. G. Waldrop.	Wayne.....	Dr. Williams Spicer.
Hertford	Dr. J. H. Mitchell.	Wilkes.....	Dr. W. P. Horton.
Hyde	Dr. E. H. Jones.	Wilson	Dr. W. S. Anderson.
Iredell	Dr. M. R. Adams.	Yadkin	Dr. T. R. Harding.
Jackson.....	Dr. R. L. Davis.	Yancey	Dr. J. L. Ray.
Johnston	Dr. Thel Hooks.		

[You are asked to fill out and mail one of these forms to the Superintendent of Health of your county on or before the third of each month, that he may use it in making his report to the Secretary of the State Board.]

Have any of the following diseases occurred in your practice during the month just closed. If so, state number of cases.

Whooping-cough -----	Typhoid Fever -----
Measles -----	Typhus Fever -----
Diphtheria -----	Yellow Fever -----
Scarlet Fever -----	Cholera -----
Pernicious Malarial Fever -----	Smallpox -----
Hemorrhagic Malarial Fever -----	Cerebro-spinal Meningitis -----

What have been the prevailing diseases in your practice?

Has any epidemic occurred among domestic animals? If so, what?

What is the sanitary condition of your section, public and private?

General Remarks: -----

----- M. D.

----- 190 -----

----- N. C.

BULLETIN

OF THE

North Carolina Board of Health.

Published Monthly at the Office of the Secretary of the Board, Raleigh, N. C.

GEO. G. THOMAS, M. D., *Pres.*, Wilmington.
S. WESTRAY BATTLE, M. D., Asheville.
HENRY W. LEWIS, M. D., Jackson.
J. L. NICHOLSON, M. D., Richlands.

W. P. IVEY, M. D., Lenoir.
FRANCIS DUFFY, M. D., New Bern.
W. H. WHITEHEAD, M. D., Rocky Mt.
J. L. LUDLOW, C. E., Winston.

RICHARD H. LEWIS, M. D., *Secretary and Treasurer*, Raleigh.

VOL. XVIII.

FEBRUARY, 1904.

No. 11.

Antitoxin Again.

We ask the careful consideration by our medical readers of the diphtheria statistics given below from a recent Bulletin of the Chicago Health Department. This simple statement of facts is a more eloquent plea for the use of antitoxin in diphtheria than any words at our command:

"Recent events have attracted so much attention to the use of antitoxin in the treatment of diphtheria that a comparison of the diphtheria mortality of the two nine-year periods—before and during the treatment—cannot fail to be of interest.

"In Chicago the treatment by the Department was begun in October, 1895, and the two periods, therefore, include 1888 to 1895, as 'before,' and 1896 to 1903 as 'during.'

"Following is a simple graphic showing of the two periods:

TOTAL DIPHTHERIA DEATHS BEFORE AND DURING ANTITOXIN TREATMENT.

Before ————— 11,488.
During ————— 6,088.
Reduction in actual number of deaths, 5,400—or
47 per cent.

AVERAGE ANNUAL POPULATION.

Before ————— 1,100,931.
During ————— 1,672,042.

DEATHS PER 10,000 OF POPULATION.

Before ————— 12.45.
During ————— 4.55. —
Increase of population, 52 per cent.
Decrease of diphtheria deaths, 63.4 per cent.

"Between October 5, 1895—date of first case treated—and December 31, 1903, the Antitoxin Administrators of the Department treated 7,435 cases of bacterially-verified diphtheria, of which number 479 died—a mortality rate of 6.44 per cent. The average mortality without antitoxin still remains about 35 per cent.

"That the value of antitoxin depends upon its early administration is shown by the following:

"Of the total 7,435 cases, 586 were treated on the first day of the disease, with 2 deaths—mortality rate, 0.34 per cent.

"Of 1,913 treated on the second day, 28 died—mortality rate, 1.46 per cent.

"Of 2,624 treated on the third day, 85 died—mortality rate, 3.24 per cent.

"Of 1,374 treated on the fourth day, 148 died—mortality rate, 10.8 per cent.

"Of 936 first treated later than the fourth day, 216 died—mortality rate, 23.1 per cent.

"There were included in the total 7,435 cases, 608 intubated laryngeal cases, of whom 508 recovered; mortality rate of intubated cases, 16.45 per cent. The former mortality of this class of cases—intubated and tracheotomized—was about 85 per cent.

"There were 7,051 exposed and immunized with 500 units each; of these, 46 were subsequently attacked, but all recovered. Per cent. of immunized subsequently attacked, 0.65."

The Adulteration of Foods and Medicines.

GERALD MCCARTHY, BIOLOGIST,
N. C. Board of Health.

During the last two decades the sources of supply of our local food markets have been revolutionized. Formerly our fresh meats, fruits and cereal foods were for the most part supplied by the actual producers within a radius of a few miles of the consumer's home. Now our "fresh" meats come principally from Chicago, our fruits from California, our cereal foods from Minneapolis or Rochester, and our "butter" from some distant oleo factory. In order to make such long journeys possible and still have the food in

an apparently fresh condition upon the tables of retailers, the packers have not scrupled to secretly employ powerful antiseptics whose purpose is to prevent natural decay or at least mask the ordinary manifestations of such decay. Coal-tar dyes, acids and preservatives of unsavory derivation are now used upon almost everything that goes in at the mouth. Practically every sample of soups, jellies, catsups and many other popular sauces upon the market for use as appetizers are dosed with benzoic acid or formalin. Benzoic acid was formerly of vegetable production exclusively. It is now produced in large quantities by chemical manipulation of the leachings of urinals.

The antiseptics most commonly used to preserve food-stuffs are the following:

For fresh meats and sausage—Bisulphide of soda and boracic acid.

For oysters and fish—Formaldehyde and boracic acid.

For liquors and soda-water syrups—Formaldehyde and salicylic acid.

For catsups, soups and sauces—Benzoic acid and formaldehyde.

There is in addition to the above-named chemicals a numerous brood of secret proprietary preparations which are manufactured and sold in large quantities. The most wonderful and impossible claims are put forward by the manufacturers of these secret preparations, which are always advertised as "perfectly harmless," "cheaper than ice," etc. These secret preparations, on examination, invariably prove to be one or other of the chemicals above named; the purchaser usually paying from 100 to 1,000 per cent. above the market value of the chemicals solely on account of the name and the advertisement.

Among the proprietary frauds of this

character found upon the market in North Carolina are the following: Preservaline, Conservaline, Freezine, Freezem, Rex-magnus. All these are very powerful antiseptic drugs, but in the quantities used upon foods they are impossible to detect by taste, odor or color. The consumer is therefore entirely at the mercy of unprincipled manufacturers and dealers, except in so far as pure-food laws and an efficient system of food inspection can prevent impositions. As these drugs are extensively advertised and sold, they are probably as extensively bought and used by local butchers, dealers and boarding-houses.

Preservatives and antiseptics in the hands of intelligent physicians have their proper place and use. When taken indiscriminately in foods and without the knowledge of the consumer they are liable to lead to disastrous consequences, ruined health and even death. People in perfect health and those engaged in active outdoor labor may for a time consume such poisons with seeming impunity, just as they might for a time consume vile whiskey. But sooner or later the toxic effect begins to manifest itself. The great increase in appendicitis in recent years has developed *pari passu* along with the increased consumption of food preservatives, and the use of the preservatives is in all probability the cause of such increase. Physicians who have to treat obstinate cases of stomach or bowel inflammation would do well to enquire into the source and quality of the food supply. It was shown by the investigation recently conducted by a committee of the United States Senate headed by Senator Mason that it is now the universal custom of butchers to throw their meat scraps and trimmings into a box or barrel placed under the counter, and from time to time

sift upon these a white powder sold under various fancy names, but which is really bisulphite of soda. This chemical perfectly preserves the scraps without use of ice even in the hottest weather. The meat scraps, when sufficient accumulates, are ground into sausage or Hamburg steak, which also, by virtue of the preservatives, keeps indefinitely. When such food is taken into the stomach the antiseptic at once paralyzes the digestive ferments and the food passes through the digestive canal with little alteration, but with disastrous effect upon organs which are not of the iron-clad type. Immense quantities of sausage known to contain bisulphite of soda as a preservative are sold in the grocery stores and butcher stalls in all of the cities in North Carolina.

As regards the invariable claim of food adulterators that these antiseptics are harmless in the doses used, the following published remarks by eminent authorities may be cited:

Professor S. W. Johnson of Yale College says in Report Connecticut Experiment Station, 1897: "Antiseptics are, accordingly, for the most part, decided poisons. In a certain dilution, with water for example, they may counteract or kill the lower, weaker organisms of fermentation, etc., without apparent injury to the higher and stronger plants and animals. Whether any one antiseptic shall operate as a harmless preservative, preventive or remedy, or as an unhealthful or even fatal poison to the consumer of food and drink containing it, depends upon the quantity and frequency of the dose.

"The power of different living things, small or large, to withstand the action of antiseptics and of poisons generally, is very various, and doubtless plants as well as animals may gradually so adapt

themselves to the attacks of poisonous substances as to acquire a considerable degree of tolerance or even of immunity."

Says Dr. Albert B. Prescott of Michigan University:*

* * * "The value of food is dependent upon digestion. The digestive apparatus, exceedingly complex as it is, varies widely with different individuals. An article of food nutritious to one person is injurious to another person. For these reasons it is of great importance to the vigor and development of mankind that individuals should be protected against the concealment of constituents of food offered upon the market. Individual discretion and responsibility become impossible when preservatives and antiseptics, those incapable of detection by taste and appearance, are secretly introduced into food. An article of food charged with a preservative not only contains a small quantity of the preservative article, liable in itself to affect the body after habitual use, but the entire food material is to some extent modified and altered by the action of a preservative. The very fact that the food is prevented from decomposition, or from certain kinds of decomposition, is evidence that the food has suffered an alteration. A food that is braced against decomposition may be found to be braced against digestion. At any rate, it will be distinctly different from food not so treated, as, for instance, salted meat is different from fresh meat. Unlike that of this instance, however, the difference may not be observable by taste and appearance. The purchaser is helpless to distinguish the fresh article from the stale article. The full opportunity of the purchaser and

consumer of food to exercise his own personal choice in the selection of foods is of great importance to public health at large, and to the vigor and vitality of successive generations of men and women. For these, among other reasons, it is the duty of the State to make the concealment of preservatives in foods a legal offense."

Halliburton finds that the use of formalin prevents or retards both gastric and pancreatic digestion and retards the curdling of milk by rennet. He further states that its use disintegrates blood and irritates the skin; hence it must be much more harmful to the delicate membrane of the alimentary canal.

Dr. Henry Leffman of Philadelphia says: "Formaldehyde possesses the power of rendering nitrogenous matters insoluble and more or less indigestible."

Says Dr. Morrison of Indianapolis regarding the use of formaldehyde in milk: "My animal experiments, not yet concluded, show that young animals fed upon this milk will not thrive and are subject to intestinal troubles. No longer ago than yesterday the 'laboratory cat' was made quite sick by being fed upon milk which had been collected by our inspectors and on sale in the city. Formalin was present."

I have noticed that when formaldehyde is used in milk that in nitrogen determinations where concentrated sulfuric acid is used in the disintegration a half longer is required than where the milk is free from formaldehyde.

Salicylic acid is frequently employed as a food preservative, but it is a dangerous product, and that most conservative body of men constituting the Paris Academy of Science have forbidden even the smallest addition of salicylic acid or salicyl-

*See Report of Dairy and Food Commissioner of Michigan for 1901, page 11.

ates to food as liable to cause injury where weakness of the kidneys or digestive organs exist.

Palpitation of the heart, sleeplessness and headache are some of the prevalent but minor symptoms noticeable when salicylic acid is administered, even in as small doses as at times found in food.

Professor Hummel says: "The various forms of chemical preservatives and the coal-tar mineral colors are the most important in the first class. There is no doubt but that the chemical preservatives when used in human foods are generally injurious. They are used solely to prevent fermentation, and since the processes of digestion are fermentation processes the chemical preservatives must work an injury. Their use in milk ought especially to be condemned in the severest terms, for milk is such a universal food and is used to so large an extent by children and invalids that in such cases they must prove particularly injurious.

The use of both coal-tar dyes and preservatives in food products, especially for young children, is to be strongly condemned, and especially is this true of milk, where preservatives are not infrequently employed. On this point we quote from the Eighth Biennial Report of the Minnesota Dairy and Food Commissioner, page 1063:

"Of the coal-tar dyes some are now known that are not injurious, but since some are virulent poisons the use of all ought to be prohibited. They are used in all the cheap and highly colored candies, and, of course, here are eaten principally by children. They are also used in sauces, in all catsups, in most preserves and jellies, and in butter and cheese. Most of the highly-colored fruit syrups and crushed fruits of our soda fountains contain these dangerous colors, as do also

many of the bottled carbonated beverages. In this case come also the poisonous salts of zinc and copper which are used in canned vegetables, not so much to impart a color as to preserve the original green color of the vegetable."

The General Assembly of North Carolina in 1899 passed a "pure food" law. This law, like similar laws in other States, is based upon the Ohio pure food law, which has been in operation for about fifteen years and has stood the test of appeals to the Supreme Court upon all essential points. The State Department of Agriculture is responsible for the enforcement of the law in North Carolina. The Department has already published three annual reports on food inspection. These reports are summarized in the following tables:

SUMMARY OF RESULTS OF THE EXAMINATION OF FOOD PRODUCTS IN NORTH CAROLINA FOR 1900.

FOODS.	Total Number Samples.	Not Found Adulterated.	Found Adulterated.	Per cent. Adulterated.
Beers and other alcoholic drinks	35	8	27	77.14
Breakfast foods	24	23	1	4.17
Butter	11	11		
Canned asparagus	9	2	7	77.77
Boston baked beans	1		1	100.00
Celery	2		2	100.00
Corn	70	28	42	60.00
Corn and tomatoes	4		4	100.00
Garden peas	37	7	30	81.00
Lima beans	8	3	5	62.50
Okra	2	1	1	50.00
Okra and tomatoes	8		8	100.00
Pumpkins	8	4	4	50.00
Snap beans	9	2	7	77.77
Succotash	14	13	1	7.14
Tomatoes	55	20	35	63.63
Catsups	36	1	35	97.22
Flour	37	37		
Lard	11	10	1	9.00
Non-alcoholic summer drinks	33	9	24	72.72
Oil	11	9	2	18.18
Sauces	7	1	6	86.00
Vinegar	22	9	13	59.00
Total human foods	454	187	256	56.04

SUMMARY OF RESULTS OF THE EXAMINATION OF FOOD PRODUCTS IN NORTH CAROLINA FOR 1901.

FOODS.	Total Number Samples.	Not Found Adulterated.	Found Adulterated.	Per cent. Adulterated.
Baking powders-----	85	69	16	18.8
Coffee-----	55	35	20	36.3
Condiments-----	44	35	9	20.4
Jams, fruit butters, preserves-----	25	---	25	100.0
Jellies-----	10	---	10	100.0
Molasses, syrups and honey-----	32	6	26	81.2
Sugar-----	19	19	---	---
Tea-----	25	25	---	---
Vinegar-----	13	9	4	30.7
Total-----	308	198	110	35.7

SUMMARY OF RESULTS OF THE EXAMINATION OF FOOD PRODUCTS IN NORTH CAROLINA FOR 1902.

FOODS.	Total Number Samples.	Not Found Adulterated.	Found Adulterated.	Per cent. Adulterated.
Baking powders-----	12	12	---	---
Butter and butterine (oleo-margarine)-----	22	22	---	---
Canned fruits and vegetables-----	118	102	16	13.5
Cheese-----	33	31	2	6.0
Corn meal-----	17	17	---	---
Compound lard-----	24	24	---	---
Lard-----	32	31	1	3.1
Flour-----	70	69	1	1.4
Non-alcoholic summer drinks-----	36	10	26	72.0
Phosphates, malts, ciders and bitters-----	12	3	9	75.0
Prepared mustards and salad dressings-----	11	1	10	90.9
Tomato catsup and sauces-----	22	---	22	100.0
Total human foods-----	409	322	87	21.3

The following tables are taken from a recently-published report of another State having a "pure food" law similar to ours. These tables will serve to show in detail what people are likely to buy when looking for appetizers for convalescents and sick folks:

(The table on Jams, Jellies, etc., on page 129, should follow here).

In the matter of drug inspection nothing has as yet been attempted in North Carolina. Massachusetts, in this as in many other hygienic lines, has taken the lead. The following summary of drug inspection, taken from the report of the Massachusetts Board of Health for 1900, will serve to indicate what may be looked for, only more so, in North Carolina:

SUMMARY OF STATISTICS OF DRUGS.

DRUGS.	Genuine.	Adulterated.	Total.	Per cent. of Adulteration.
Acidum tannicum-----	5	5	10	50.0
Æther-----	2	2	4	100.0
Aqua ammoniæ fortior-----	1	1	2	100.0
Alcohol-----	2	---	2	---
Aqua destillata-----	5	20	25	80.0
Argentii nitras-----	12	---	12	---
Bismuthi subcarbonas-----	8	---	8	---
Bismuthi subnitras-----	5	5	10	50.0
Calx chlorata-----	---	4	4	100.0
Capsicum-----	60	10	70	14.3
Caryophyllus-----	1	---	1	---
Cera alba-----	3	---	3	---
Cera flava-----	4	---	4	---
Cerri oxalas-----	1	---	1	---
Chloral-----	1	---	1	---
Chloroformum-----	3	1	4	25.0
Cinnamomum cassia-----	3	---	3	---
Diabetic flour-----	3	10	13	76.9
Extractum glycyrrhizæ-----	---	9	9	100.0
Ferri et quiniæ citras-----	6	2	8	25.0
Ferri et strychninæ citras-----	3	---	3	---
Glycerinum-----	46	21	67	31.3
Gin-----	4	2	6	33.3
Iodum-----	1	---	1	---
Limonis succus-----	---	12	12	100.0
Liquor magnesi citratis-----	1	---	1	---
Miscellaneous-----	18	5	23	21.7
Magnesi citras effervescens-----	3	---	3	---
Oleum limonis-----	1	5	6	83.3
Oleum olivæ-----	37	13	50	26.0
Opil pulvis-----	8	1	9	11.1
Piper-----	3	---	3	---
Potassii bitartras-----	19	2	21	9.5
Pulvis glycyrrhizæ compositus-----	3	---	3	---
Pimenta-----	1	---	1	---
Saccharum lactis-----	1	---	1	---
Sapo-----	1	---	1	---
Sinapis alba-----	1	---	1	---
Spiritus ætheris compositus-----	3	1	4	25.0
Spiritus frumenti-----	---	8	8	100.0
Spiritus vini gallici-----	---	3	3	100.0
Sulphur præcipitatum-----	5	10	15	66.6
Syrupus-----	2	3	5	60.0
Tinctura iodi-----	11	48	59	81.3
Tinctura opii-----	6	33	39	84.6
Tinctura opii camphorata-----	1	1	2	50.0
Vinum album-----	---	3	3	100.0
Vinum rubrum-----	---	4	4	100.0
Zingiber-----	2	---	2	---
Summary-----	303	244	547	44.6

BRAND.	PRODUCER.	Weight Grains.	Cost.	PRESERVATIVES.	REMARKS.	COLOR.
Anderson's Cranberry Sauce	Anderson Pres. Co., Camden, N. Y.	808	20	Formalin	Large amount	Coal tar.
Campbell's Strawberry Jam	Joseph Campbell Pres. Co., Camden, N. Y.	436	25	Formalin and benzoic acid		Coal tar.
Old Virginia Marmalade	Geo. K. McMechen, Wheeling, W. Va.	429	25	Formalin, sulphurous acid and benzoic acid		Coal tar.
Raspberry Preserves	Towle Pres. Co., St. Paul	945	25	Formalin and salicylic acid	Small amount.	Coal tar.
Pure Unfermented Grape Juice	Reid, Murdoch & Co.	335	35	Benzoic and salicylic acid		?
Quaker Brand Pear	Wm. R. Manierre, Chicago	462	25	Formalin		Coal tar.
XX Brand Strawberries	P. J. Ritter, Philadelphia	370	25	Formalin		Coal tar.
Home Brand Apricots	Grigg, Cooper & Co., St. Paul	297	15	Formalin.		
Blackberry Jelly	Davenport Refining Co., Davenport, Iowa	13 lbs.	50	Formalin and sulphurous acid		Coal tar.
Currant Jelly	Manierre-Yoe Syrup Co., Chicago	542	25	Formalin and sulphurous acid	Most probably artificial.	A red dye.
Felino Brand Blackberry	Franklin McVeagh & Co., Chicago	365	25	Formalin, benzoic acid and sulphurous acid		Bright crimson, much.
Heinz Preserved Raspberries	H. J. Heinz & Co., Pittsburg	615	50	Formalin	Small amount.	
Peerless Brand Red Raspberries	C. H. Pearson Packing Co., Baltimore	576	15	Formalin	Contents spoiled and uneatable moderate amount.	
Cupid Brand Crawford Peaches	Dunkley Pres. Co., Kalamazoo, Mich.	977	30	Formalin.		
*SOUPS.						
Mock Turtle	Franco-American Food Co.	499	22	Formalin	Very small amount.	
Heinz Tomato	H. J. Heinz & Co., Pittsburg	950	30	Formalin.		Coal tar.
Van Camp's Tomato	Van Camp Preserving Co.	350	10			
Premier Concentrated Chicken	Libby & McNeill, Chicago	345	10	Formalin	Very small amount.	
Yacht Club Tomato	Reid, Murdoch & Co., Chicago	290	15	Formalin		Strong orange, yellow dye.
CATSUPS.						
Nail City	W. Va. Pres. Co., Wheeling, W. Va.	15	15			Coal tar.
Home Made Tomato	Fargo Preserving Co.	20	20	Benzoic acid	Large amount	Coal tar.
Monarch Tomato	Reid, Murdoch & Co., Chicago	25	25	Benzoic acid		Coal tar.
Snyder's Home Made	T. A. Snyder Preserving Co.	25	25	Benzoic acid		Coal tar.
Batavia	Batavia Preserving Co.	17½	17½	Benzoic acid		Coal tar.
Priscilla Tomato	Franklin McVeagh & Co.	15	15	Formalin, salicylic acid	Small amount	Coal tar.
Superior Tomato	Eagle Vinegar and Pickle Works, St. Louis, Mo.	25	25	Formalin, sulphurous acid.	Small amount	Orange red.
Superior Tomato	Not given	10	10	Formalin	Large amount	Coal tar.

* Of the five samples of soup examined four contained preservatives and the one free from preservatives contained coal tar dye, so that all were found adulterated. No. 178 contained an excessive amount of orange yellow coal tar dye.

LIME JUICE.

BRAND.	Citric Acid (Per cent.)	Other Ingredients.
Sovereign -----	4.15	Salicylic acid.
Sovereign -----	3.94	Salicylic acid.
Thompson's -----	3.64	Sodium sulphite.
Folkin's -----	3.16	Salicylic acid.
Gold Leaf -----	2.95	
Montego -----	2.95	Salicylic acid.
Folkin's -----	2.66	Salicylic acid.
Geer's -----	2.62	Sodium sulphite.
Geer's -----	2.50	Sodium sulphite.
Family Grocery Co.'s	1.92	
Russell's -----	2.26	Sodium sulphite.
Santiago Triple Re-		Hydrochloric and sa-
fin'd -----		licylic acids.

All were found to be deficient in citric acid, which, according to the Pharmacopœia, should be present to the extent of 7 per cent. All but two samples contained added preservative.

Nine samples of so-called "diabetic flour" sold at from 25 to 50 cents per pound, and, advertised as "free from starch," were examined with result shown in annexed table:

DIABETIC FLOUR.		MANUFACTURER.
Per cent. Starch.	Price Per Pound (cts.)	
10.00	25	(Bulk) -----
16.66	30	Crystal Springs Co., Watertown.
18.00	20	American Health Food Co.
18.00	20	American Health Food Co.
56.20	50	American Health Food Co.
64.28	25	T. Metcalf Co.
63.38	15	Health Food Co., New York.
64.29	11	American Health Food Co.
64.46	30	Johnson Educator Food Co.
64.29	30	Johnson Educator Food Co.
68.74	---	Unsurpassed Gluten Flour.
	---	Whole Wheat Flour.
	---	Whole Wheat Flour.

* Label on the back of the container: Moisture, 11.22 per cent.; nitrogen, 2.67 per cent.; equivalent nitrogenous matter, 16.67 per cent.; starch, 18.14 per cent.

This article would not be complete without some reference to the traffic in "patent medicines."

The class chiefly defrauded by the exploiters of this class of goods are poor working people who think they cannot afford to secure the services of a regular physician and so fall an easy prey to the unscrupulous sharks who fill the advertising columns of the newspapers with seductive baits for dupes. The following extract from a recent report of the Ohio Pure Food Commissioner will serve to show the enormity of the fraud practiced upon ignorant and credulous people by these advertising quacks:

"PASKOLA.

"Paskola was a proprietary article put up at No. 30 Reed street, New York City, by a company styling itself The Præ-digested Food Company.

"The following facts illustrate the boldness with which this gigantic fraud was foisted upon the people:

"The company was organized October 29, 1893, and capitalized at the moderate sum of one thousand dollars; its charter authorizing the issue of one hundred shares at ten dollars each. Notwithstanding the insignificant amount of capital allowed by its charter, it was able to employ a manager at a salary of fifteen thousand dollars per year, and is reputed to have borrowed three millions of dollars upon which to do business.

"A leading newspaper manager in Ohio is authority for the statement that two hundred and fifty thousand dollars were placed in newspaper advertising in this State alone before any of the product was placed upon our market.

"Paskola was put upon the market in Ohio in February of 1894, and by means

of this extensive and false advertising its sales had reached in the short space of three months the enormous amount of one gross of bottles per day, upon an average, for each wholesale drug house of the State.

"Analysis of a sample of the goods by one of our chemists disclosed the fact that its composition was closely allied to a poor quality of commercial glucose, having the odor of sulphurous acid and containing a small amount of hydrochloric acid. Prosecution was brought against a dealer for selling glucose under the name of Paskola. The manager testified upon the witness stand that all there was of pre-digested food in the article was simply commercial glucose; that it also contained two-tenths of one per cent. of hydrochloric acid and an infinitesimal fraction of a per cent. of a digestive ferment.

"Analyses of different samples by different chemists proved conclusively that there was no uniformity in the product, and while there was great difference between the expert testimony given by the chemists of this department and the chemists who were hired by the defense to testify in their favor, yet all agreed that the article was almost entirely composed of commercial glucose; that three cents was the real value of the substance contained in a bottle, which, under the name of Paskola, sold for the sum of one dollar."

Review of Diseases for January, 1904.

SIXTY-SEVEN COUNTIES REPORTING.

Ninety-six counties have Superintendents of Health.

Except in the case of the more contagious and dangerous diseases the Su-

perintendent has, as a rule, to rely upon his own information alone, since few physicians can be induced to report cases of non-contagious diseases to him.

Where the number of cases is not given, or the prevalence of a disease otherwise indicated, its mere presence in the county is to be understood as reported.

For the month of January the following diseases have been reported from the counties named:

MEASLES.—Ashe, 60 cases; Burke, 20; Caldwell, 2; Catawba, 26; Cherokee, epidemic; Durham, a few; Forsyth, several; Gaston, 8; Iredell, 100; Lincoln, 6; Nash, many; New Hanover, 2; Union, 10; Vance, 5; Wake, 8; Watauga, 8; Wilkes, 300; Yancey, several—18 counties.

WHOOPING-COUGH.—Ashe, 20; Brunswick, many; Burke, many; Caldwell, 6; Craven, several; Duplin, a few; Durham, a few; Forsyth, many; Gaston, many; Jackson, 10; Jones, a few; Macon, many; Nash, many; Pitt, 1; Sampson, in all parts; Transylvania, a few; Union, 20; Vance, 1; Wake, 50—19 counties.

SCARLATINA.—Cleveland, 1; Forsyth, 14; Gaston, 2; Guilford, 2; Hyde, 2; Moore, 1; New Hanover, 1; Rockingham, a few—8 counties.

DIPHTHERIA.—Cabarrus, 2; Craven, 1; Edgecombe, 1; Forsyth, 5; Gaston, 5; Granville, 1; Guilford, 1; Iredell, 1; Lincoln, 1; Madison, 2; Mecklenburg, 1; Nash, 1; New Hanover, 1; Pitt, 4; Stanly, 2; Union, 10; Wake, 2; Warren, 1—18 counties.

TYPHOID FEVER.—Ashe, 18; Caldwell, 3; Gaston, 2; Gates, 1; Harnett, a few; McDowell, 1; Mecklenburg, 1; New Hanover, 3; Pitt, 2; Scotland, a few; Stanly; Union, 12; Wake, 6; Watauga, 3—14 counties.

MALARIAL FEVER.—Gaston, 12; Johnston; Jones; Wake.

MALARIAL FEVER, PERNICIOUS.—Jones, 4; Wake, 1.

BOWEL DISEASES.—Gaston.

ENTERITIS, IN CHILDREN.—Jones

INFLUENZA.—Ashe, general; Brunswick; Carteret; Cumberland; Currituck; Duplin, general; Gates, general; Hyde, general; Lincoln; New Hanover, general; Pamlico; Pender, general; Person; Richmond; Sampson, general; Transylvania, general, mild; Union; Vance, general—18 counties.

PNEUMONIA.—Alexander, in all parts; Ashe, in all parts; Burke; Cleveland; Cumberland; Davie, in all parts; Duplin, in all parts; Gaston; Gates, 3; Henderson; Johnston, in all parts; Martin; Moore; Pender, in all parts; Person, in all parts; Richmond; Rockingham, in all parts; Scotland; Swain, in all parts; Watauga—20 counties.

MUMPS.—Clay; Forsyth, in all parts; Sampson, in all parts; Wake.

ROTHELN.—Guilford; Sampson.

VARICELLA.—Clay.

SMALL-POX.—Alamance, 122; Anson, in eastern part; Bladen, 1; Buncombe, 8; Cabarrus, 1; Chowan, 1; Cleveland, 4; Cumberland, 3; Davidson, 72; Davie, 2; Durham, 10; Edgecombe, 8 cases, all belonging to the same family, with two deaths—quarantined—no spread; Forsyth, 17; Gaston, 17; Guilford, 8; Harnett, 3; Henderson, 3, father, mother and child, the only members of the family—quarantined—no spread; Iredell, 8; Jackson, 25; Johnston, 5; Macon, many; Madison, on the decline; Mecklenburg, 5; New Hanover, 1; Orange, 10; Perquimans, 32; Pitt, 13; Richmond, 7; Robeson, several; Rockingham, 4; Scotland, 20 or 30; Stanly, 2; Union, 6; Vance, 12;

Wake, 1; Wayne, 10; Wilkes, 20; Wilson, 4; Yancey, 6 or 8—39 counties.

CHOLERA, IN HOGS.—Hyde; Sampson.

DISTEMPER, IN HORSES.—Cherokee; Jackson.

No diseases reported from Bertie, Camden, Chatham, Northampton, Pasquotank, Polk, Randolph, Washington.

No reports received from Alleghany, Beaufort, Caswell, Columbus, Dare, Franklin, Graham, Greene, Halifax, Haywood, Hertford, Lenoir, Mitchell, Montgomery, Onslow, Rowan, Rutherford, Stokes, Surry and Yadkin.

Summary of Mortuary Reports for January, 1904.

(TWENTY-SEVEN TOWNS.)

	White.	Col'd.	Total.
Aggregate population.....	92,050	66,950	159,000
Aggregate deaths..	93	140	233
Representing temporary annual death rate per 1,000	12.1	25.1	17.6
<i>Causes of Death.</i>			
Typhoid fever	0	1	1
Scarlet fever	1	1	2
Malarial fever	1	1	2
Whooping-cough..	0	2	2
Pneumonia.....	20	24	44
Consumption.....	10	18	28
Brain diseases.....	8	5	13
Heart diseases.....	9	12	21
Neurotic diseases...	3	3	6
Diarrhœal diseases	5	4	9
All other diseases..	29	61	90
Accident	6	6	12
Suicide.....	1	1	2
Violence.....	0	1	1
	93	140	233
Deaths under five years.....	16	46	62
Still-born....	9	23	32

Mortuary Report for January, 1904.

TOWNS AND REPORTERS.	RACES.	POPULATION.		TEMPORARY ANNUAL DEATH RATE PER 1,000.		Typhoid Fever.	Scarlet Fever.	Malarial Fever.	Diphtheria.	Whooping-cough.	Measles.	Pneumonia.	Consumption.	Brain Diseases.	Heart Diseases.	Neurotic Diseases.	Diarrheal Diseases.	All Other Diseases.	Accident.	Suicide.	Violence.	TOTAL. DEATHS.		Deaths under five years.	still born.
		By Races.	Total.	By Races.	Total.																	By Races.	By Towns.		
Charlotte	W.	11,000		87																		2	23	2	4
Dr. F. O. Hawley.	C.	7,200	18,200	250	15.2							6	1	1	1			4	1			15	26	6	1
Durham	W.	8,000		120																		2	10	1	
Dr. N. M. Johnson.	C.	5,000	13,000	41.2	24.0							3	3	1	1		10					13	10		
Edenton	W.	1,200		20.0																		3	5		
Dr. T. J. Hoskins.	C.	1,900	3,100	18.9	19.3												3					3			
Elizabeth City	W.	6,000		4.0																		2	11	1	1
Dr. I. Fearing.	C.	4,000	10,000	27.0	13.2							2	1				6					9	3	1	
Fayetteville	W.	2,500		4.8																		1			
Dr. A. S. Rose.	C.	2,300	4,800	10.4	7.5												1					2	3		1
Goldsboro	W.	3,500		13.7								1	1									4	9	1	
Robt. A. Creech, H. O.	C.	2,500	6,100	23.1	17.5								1				4					5	2	2	
Greensboro	W.	6,100		17.5								2	2				4					17	26	1	2
Jno. S. Michaux, C. C.	C.	4,000	10,100	51.0	30.9	1						4	3	1			8					17	8	5	
Henderson	W.	2,100		17.1																		3	9		
Dr. John H. Tucker.	C.	1,700	3,800	42.3	28.4				1			1	2		1				1			1	6		
Laurinburg	W.	900		13.3																		2	3	1	
Dr. G. D. Everington.	C.	600	1,500	40.0	24.0										1		1					1	3		
Lenoir	W.	1,200		20.0								1										2		1	
Dr. S. W. Shell.	C.	300	1,500	0.0	16.0																	0	2		
Lexington	W.	800		0.0																		0	0		
J. H. Moyer, Mayor.	C.	500	1,300	0.0	0.0																	0	0		
Marion	W.	800		0.0																		0	0		
Dr. B. L. Ashworth.	C.	400	1,200	0.0	0.0																	0	0		
Monroe	W.	1,850		13.0														1				2			
Dr. Jno. M. Blair.	C.	600	2,450	0.0	9.8																	0	2		
Oxford	W.	1,200		0.0																		0	6		
Dr. S. D. Booth.	C.	1,250	2,450	57.6	29.4		1					1	1				3					6		2	
Raleigh	W.	8,000		9.0								1	2	2								6	15	1	1
T. P. Sale, Clerk B. H.	C.	5,800	13,800	18.6	13.0							1	1				7					9	2	1	
Rocky Mount	W.	1,400		0.0																		2			
Dr. J. T. Shubrick, H. O.	C.	1,500	3,100	15.0	7.7								1									2			
Salen	W.	3,300		10.9								1										3	5	1	
S. E. Butler, Supt. H.	C.	350	3,650	68.6	16.4							2										2		1	
Salisbury	W.	3,900		12.3								2						1				4	5		1
Dr. H. T. Trantham.	C.	2,500	6,400	4.8	9.4																	1			
Southport	W.	900		13.3			1															0	1	1	
Dr. D. I. Watson.	C.	500	1,400	0.0	8.5																	0			
Tarboro	W.	2,000		18.0										1	1		1					3	4	1	
Dr. Wm. J. Thigpen.	C.	500	2,500	24.0	19.2																	1			
Wadesboro	W.	1,000		12.0																		1			
Dr. J. H. Bennett.	C.	700	1,700	0.0	7.1																	0	1		
Washington	W.	3,900		16.0								1		2	1							5	9	3	
Dr. D. T. Tayloe.	C.	2,900	5,900	20.7	18.3							3		1			1					5			
Waynesville	W.	1,000		12.0								1										0	1		
Dr. Thos. Stringfield.	C.	300	1,300	0.0	9.2																	0			
Weldon	W.	700		0.0																		0	0		
J. T. Gooch, Mayor.	C.	750	1,450	0.0	0.0																	0			
Wilmington	W.	10,000		24.0			1					6	1	1	2		6	1	1			20	45	2	2
Dr. Chas. T. Harper.	C.	11,000	21,000	27.3	25.7		1					1	3	3	2	3	10	1	1			25	7	4	
Wilson	W.	3,500		10.3								1										3	7	1	
Dr. W. S. Anderson.	C.	3,300	6,800	14.5	12.3								1		1		2		1			4			
Winston	W.	6,000		10.0									1	1			2		1			5	13	2	1
Dr. J. L. Hanes.	C.	4,500	10,500	21.3	14.8				1				2	1	1			2				8	3	2	

N. B.—The reporters for the cities and towns printed in **Black Type** have signed this certificate: "I hereby certify that this report gives the *whole* number of deaths occurring within the corporate limits during the above month."

County Superintendents of Health.

Alamance	Dr. T. S. Faucette.	Jones.....	Dr. N. G. Shaw.
Alexander	Dr. C. J. Carson.	Lenoir	Dr. C. L. Pridgen.
Alleghany	Dr. Robt. Thompson.	Lincoln	Dr. John W. Saim.
Anson	Dr. J. H. Bennett.	McDowell	Dr. B. L. Ashworth.
Ashe	Dr. Manley Blevins.	Macon	Dr. F. L. Siler.
Beaufort	Dr. D. T. Tayloe.	Madison	Dr. W. J. Weaver.
Bertie	Dr. H. V. Dunstan.	Martin.....	Dr. W. H. Harrell.
Bladen	Dr. L. B. Evans.	Mecklenburg.....	Dr. C. S. McLaughlin.
Brunswick	Dr. J. A. McNeill.	Mitchell.....	Dr. V. R. Butt.
Buncombe	Dr. D. E. Sevier.	Montgomery	Dr. M. P. Blair.
Burke.....	Dr. J. L. Laxton.	Moore.....	Dr. Gilbert McLeod.
Cabarrus.....	Dr. R. S. Young.	Nash	Dr. J. P. Battle.
Caldwell	Dr. A. A. Kent.	New Hanover	Dr. W. D. McMillan.
Camden.....	Dr. J. L. Lister.	Northampton.....	Dr. H. W. Lewis.
Carteret	Dr. F. M. Clarke.	Onslow.....	Dr. E. L. Cox.
Caswell	Dr. S. A. Malloy.	Orange.....	Dr. D. C. Parris.
Catawba	Dr. Geo. H. West.	Pamlico.....	Dr. H. P. Underhill.
Chatham.....	Dr. T. A. Kirkman.	Pasquotank	Dr. J. B. Griggs.
Cherokee.....	Dr. B. B. Meroney.	Pender.....	Dr. R. J. Williams.
Chowan.....	Dr. T. J. Hoskins.	Perquimans.....	Dr. C. C. Winslow.
Clay	Dr. P. B. Killian.	Person	Dr. J. A. Wise.
Cleveland	Dr. B. H. Palmer.	Pitt.....	Dr. Zeno Brown.
Columbus.....	Dr. I. Jackson.	Polk	Dr. C. J. Kenworthy.
Craven.....	Dr. Joseph F. Rhem.	Randolph	Dr. W. J. Moore.
Cumberland.....	Dr. A. S. Rose.	Richmond.....	Dr. F. J. Garrett.
Currituck.....	Dr. H. M. Shaw.	Robeson	Dr. H. T. Pope.
Dare	Dr. W. B. Fearing.	Rockingham	Dr. Sam Ellington.
Davidson	Dr. Joel Hill.	Rowan.....	Dr. W. L. Crump.
Davie	Dr. M. D. Kimbrough.	Rutherford.....	Dr. T. B. Twitty.
Duplin	Dr. A. J. Jones.	Sampson	Dr. John A. Stevens.
Durham	Dr. N. M. Johnson.	Scotland	Dr. A. W. Hamer.
Edgecombe	Dr. W. J. Thigpen.	Stanly.....	Dr. V. A. Whitley.
Forsyth.....	Dr. W. O. Spencer.	Stokes	Dr. W. V. McCanless.
Franklin	Dr. E. S. Foster.	Surry	Dr. John R. Woltz.
Gaston.....	Dr. H. F. Glenn.	Swain.....	Dr. A. M. Bennet.
Gates.....	Dr. W. O. P. Lee.	Transylvania	Dr. C. W. Hunt.
Graham	Dr. V. J. Brown.	Tyrrell.....	
Granville	Dr. S. D. Booth.	Union	Dr. John M. Blair.
Greene.....	Dr. C. S. Maxwell.	Vance.....	Dr. H. H. Bass.
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Halifax	Dr. I. E. Green.	Warren.....	Dr. M. P. Perry.
Harnett.....	Dr. O. L. Denning.	Washington	Dr. W. H. Ward.
Haywood	Dr. J. F. Abel.	Watauga.....	Dr. C. W. Phipps.
Henderson	Dr. J. G. Waldrop.	Wayne.....	Dr. Williams Spicer.
Hertford	Dr. J. H. Mitchell.	Wilkes.....	Dr. W. P. Horton.
Hyde	Dr. E. H. Jones.	Wilson.....	Dr. W. S. Anderson.
Iredell	Dr. M. R. Adams.	Yadkin.....	Dr. T. R. Harding.
Jackson.....	Dr. R. L. Davis.	Yancey	Dr. J. L. Ray.
Johnston	Dr. Thel Hooks.		

BULLETIN

OF THE

North Carolina Board of Health.

Published Monthly at the Office of the Secretary of the Board, Raleigh, N. C.

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RICHARD H. LEWIS, M. D., *Secretary and Treasurer*, Raleigh.

VOL. XVIII.

MARCH, 1904.

No. 12.

The War Against Mosquitoes.

AN APPEAL TO PHYSICIANS.

We are promised by Mr. McCarthy, our Biologist, for our next issue an illustrated article treating fully the malaria-mosquito question to date, but as the breeding of mosquitoes will begin before that can be laid before our readers, we feel it to be wise to issue the call to arms now. The science or art of war, according to the great General Forrest, is to "Get these first with the most men." That is just what we want to do in this campaign against those enemies which shoot us not with bullets but with *plasmodia malarie*. The number of mosquitoes which succeed in coming through the winter alive is always small, and after such a severe winter as we have just had it is reasonable to hope that the number this year will be smaller than for many years past. The outlook, therefore, is the more encouraging.

Owing to the short time required for the complete development of the mosquito from the egg to maturity, there is time in our long summer for the production of several generations. As each female lays a great many eggs, it is easy to understand how *millions* could come in August and September from *hundreds* at the beginning of the season. So the proper thing to do is to force the fighting "from the jump" and practically exterminate them before myriads of reinforcements come in.

As is already well known, mosquitoes breed only in still waters—preferably small stagnant pools protected by grass and undergrowth from the wind, and free from fish, which prey upon the larvæ. It is now also pretty generally known that a thin film of oil upon the surface of such waters will prevent the laying of the eggs there, and effectually destroy any larvæ that may have hatched therein. The problem, therefore, is a very simple one theoretically, and in most in-

stances practically also. It is summed up in this one sentence: Drain, fill up or oil (every ten days or two weeks) every body of stagnant water, no matter how small. Empty all old discarded fruit cans, buckets and barrels about the premises, and put them under shelter or turn them upside down; drain, if possible (if not, fill up or oil), all natural pools; open the ditches and small wet-weather streams, to permit the running off and prevent the re-formation of the pools so often found along their courses. Larger ponds stocked with fish are not so favorable as breeding places, for reasons given above, provided no shallows protected by grass, bullrushes, cat-tails, etc., are permitted on their borders. The banks of such ponds should be made as clean and abrupt as possible, so as to expose the entire pond to the wind and fish. But some man will say: Why take this trouble, when there is a swamp within a mile or half a mile of my house? For the reason that fortunately mosquitoes rarely ever fly a mile or even half a mile. If instead of laying the mosquitoes on the distant swamp the householder would make a careful inspection of his immediate environment, he would nearly always find the source of supply to be within a radius of two or three hundred yards of his house—as is pointed out in Dr. Howard's book on mosquitoes.

While the transmission of malarial fevers by mosquitoes is thoroughly established, and the destruction of the mosquitoes is therefore the self-evident method of prevention of this class of disease, a large number of our people are ignorant of these facts, and a still larger number, probably, are indifferent to their practical application. And right here the doctor comes in. Naturally and properly no one has such influence with peo-

ple on all questions relating to disease as the trusted and beloved family physician. On these questions his word is generally law. It is impossible for us to reach even a small proportion of the people directly, but we do reach through THE BULLETIN practically all the physicians in the State, and we therefore appeal to them to come to our aid. It is not only because it is only through them that all the people can be reached, but because a word from them to their own clientele would have so much more weight than ours, or that of anybody else, that we make this earnest appeal to them. With their active co-operation we could accomplish great things—without it very little. So we hope that every medical man who reads this article residing in malarious localities will explain to those with whom he comes in contact how it is that mosquitoes spread malaria, and urge upon them the necessity for immediate and persistent efforts to destroy them or better prevent their development. Impress upon everybody the fact that every pool of stagnant water in summer is a pest-hole which must be abated.

Hook-worm Diseases Again.

As our fund of information on this subject increases, the more and more convinced are we that this serious disease is widely prevalent in our State. How widely prevalent we cannot say, owing to the meagre response to our request for specimens of feces from suspected cases. Although the authorities speak of it as practically limited to sandy regions, we do not believe that it is so in this State. We know that it prevails in Caldwell county, and we believe that it is to be found in even more

mountainous sections. We are extremely desirous of getting information as to the area infected with the *uncinaria* before the meeting of the Board of Health and the State Medical Society in May, when the subject will come up for discussion. We would therefore esteem it a favor on the part of our medical readers having cases of pronounced anæmia, especially in the young, if they would write to our Biologist, Mr. Gerald McCarthy, for containers and send him specimens of their fæces. Doctor, greatly oblige us by doing this—and *promptly*.

The Ethics of Eating.

The influence of the mind over the body is perhaps nowhere better illustrated than in the relation between psychic conditions and digestion. We recently emphasized the value of the deliberate and thorough mastication of food, and took occasion to say that how one eats is often of more importance than what one eats. In the treatment of dyspepsia, it is important to secure freedom from anxiety, pleasant surroundings and such other accompaniments as conduce to enjoyment in eating. Pawlow's classical experiments on gastric secretion in dogs led him to some important conclusions on this subject. One of them is that food eaten without relish and without appetite, although in itself most nutritious and supposedly easy of digestion, may remain for hours in the stomach undigested. The same result often follows when food is eaten while the mind is diverted to other things, especially in case of anger, anxiety, preoccupation, etc. Pawlow says that the old and imperative requirement that food should be eaten with interest and enjoy-

ment is the most emphasized and strengthened of all of his conclusions. Thus food which is nutritious and of the best quality may remain undigested because it lacks presentation in an attractive form or is served amid unpleasant surroundings. Pawlow even says a good word for the preliminary cocktail or the use of some alcoholic in small amounts, as these, by producing slight exhilaration, divert the mind from unpleasant surroundings, and may enable one to forget cares and worries. It is hardly necessary to suggest, however, that this remedy may be more harmful than otherwise. But the enjoyment of eating is the important factor, and of many harmless means to secure this end, it matters little which means is used provided the end be secured. It is well to call attention again to this well-known fact; here is the solution of many an indigestion problem, especially among business men in cities. The psychologic factor in this important function is not to be forgotten.—*Journal A. M. A.*

The Disinfection of Paper Money.

A proposition has been made that banking institutions disinfect all paper currency which passes through their hands. This proposition is made in all seriousness, and is worthy of commendation. If there is any value in disinfection, and if it is worth while to attempt to avoid contagion, it seems a little remarkable that we regularly and willingly undergo the dangers from a medium that is a good contagion carrier, that passes through all kinds of hands, and that consequently favors the spread of disease. No sanitarian would refuse a ten-dollar bill, however tattered and infected, not

even from the hands of one whose sanitary condition is obviously unwholesome; and who can tell through whose hands it passed before? It is not too much to say that the fight against tuberculosis and other infectious diseases will result only in partial success if the danger from paper currency is not recognized. Of course, even though the banks disinfect all such currency, there will still be the danger from the interchange among individuals. At the same time, the disinfection by wholesale, if we may so put it, by the banks will surely do much good. The expense will be very small, and the evil possibilities that will be lessened are hardly calculable.—*Ibid.*

Review of Diseases for February, 1904.

EIGHTY COUNTIES REPORTING.

Ninety-six counties have Superintendents of Health.

Except in the case of the more contagious and dangerous diseases the Superintendent has, as a rule, to rely upon his own information alone, since few physicians can be induced to report cases of non-contagious diseases to him.

Where the number of cases is not given, or the prevalence of a disease otherwise indicated, its mere presence in the county is to be understood as reported.

For the month of February the following diseases have been reported from the counties named:

MEASLES.—Alexander, many cases; Ashe, 30; Brunswick, 1; Buncombe, 2; Burke, a few; Caldwell, 6; Catawba; Clay, 17; Cumberland, 6 or 8; Durham, a few; Edgecombe, a few; Forsyth, many; Gaston, 30; Iredell, 38; Nash, many; New Hanover, 28; Onslow, 30;

Polk, 45; Rockingham, a few; Rowan, 30; Sampson; Swain, in all parts; Vance, in all parts; Wake, 3; Watauga, 8 or 10; Wilkes, 200; Yancey, many—27 counties.

WHOOPING-COUGH.—Brunswick, many; Craven, several; Cumberland; Durham, a few; Edgecombe, a few; Gaston, 13; Hertford; Iredell, 4; Martin, many; Nash; Onslow, 25; Polk, 2; Rowan, 2; Rutherford, a few; Sampson; Surry, 20; Swain, in all parts; Vance, 5; Wake, 40—19 counties.

SCARLATINA.—Alamance, 1; Davidson, 1; Forsyth, 15; Gaston, 1; Martin, 1; Nash, 1; New Hanover, 1; Rockingham, several; Rowan, 1; Stanly, 1; Surry, 5—11 counties.

DIPHTHERIA.—Alamance, 1; Bladen, 1; Buncombe, 1; Edgecombe, 1; Gaston, 5; Granville, 1; Guilford, 1; Iredell, 1; Lincoln, 2; New Hanover, 2; Onslow, 3; Richmond, 1; Rutherford, 2; Stanly, 1; Wilkes, 1; Yadkin, a few, mild—16 counties.

TYPHOID FEVER.—Ashe, 12; Bladen, 4; Caldwell, 4; Craven, 1; Gaston, 6; Gates, 2; Harnett, a few; Jones, 2; Martin, 2; New Hanover, 5; Onslow, 1; Rutherford, 1; Sampson; Stanly; Union, 10; Vance, 1; Wake, 1; Watauga, 7 to 10—18 counties.

MALARIAL FEVER.—Hertford; Jones; Onslow.

MALARIAL FEVER, HEMORRHAGIC.—Onslow, 1.

INFLUENZA.—Ashe; Bertie, in many parts; Brunswick; Carteret, in most parts; Caswell; Clay; Cumberland, general; Currituck; Dare, a few; Duplin, in many parts; Edgecombe; Forsyth, general; Henderson, general; Hertford, general; Johnston, general; Lincoln, general; Martin, general; Moore, general; Onslow; Pender; Person; Randolph, in most parts; Richmond; Surry, general;

Vance, general; Warren, in many parts; Washington, general; Wayne—28 counties.

MEXINGITIS.—Rockingham, a few.

MUMPS.—Caswell; Clay; Forsyth, in all parts; Hertford, a few; Scotland, a few—5 counties.

PNEUMONIA.—Alleghany, in all parts; Ashe; Camden, in all parts; Caswell; Clay; Cumberland, in all parts; Currituck, a few cases in many parts; Davie, in all parts; Durham; Edgecombe; Gaston, 34; Gates, in all parts; Harnett, in many parts; Henderson, in all parts; Hertford; Hyde; Johnston, in all parts; Martin; Moore, in all parts; Pasquotank, many; Pender; Perquimans, in all parts; Person; Randolph, in most parts; Richmond; Rockingham, in all parts; Sampson; Wayne—28 counties.

ROSEOLA.—Caswell; Orange; Rockingham; Yancey.

RUBELLA.—Guilford

VARICELLA.—Caldwell; Chatham; Wilkes; Yancey.

SMALL-POX.—Alamance, 16; Anson, several; Bladen, 18; Cabarrus, 12; Caswell, 30; Cleveland, 3; Cumberland, 1; Davidson, 17; Davie, 20; Duplin, 16; Durham, 18; Forsyth, 21; Gaston, 8; Granville, 5; Guilford, 10; Iredell, 5; Johnston, 20; McDowell, 4; Madison, 2; Mecklenburg, 8; New Hanover, 8; Orange, 4; Person, 1; Polk, 4; Randolph, 2; Richmond, 21; Robeson, 300 (mild); Rockingham, 2; Rowan, 4; Rutherford, 8; Scotland, a few; Surry, 5; Union, 3; Vance, 5; Wayne, a good many; Wilkes, 36; Yancey, a few—37 counties.

CHOLERA, IN HOGS.—Sampson.

DISTEMPER, IN HORSES.—Ashe; Jones.

No diseases reported from Jackson, Northampton and Transylvania.

No reports received from Beaufort, Cherokee, Columbus, Franklin, Graham, Greene, Halifax, Haywood, Lenoir, Macon, Mitchell, Montgomery, Pamlico, Pitt, Stokes and Wilson.

Summary of Mortuary Reports for February, 1904.

(TWENTY-THREE TOWNS.)

	White.	Col'd.	Total.
Aggregate population.....	86,250	58,550	144,800
Aggregate deaths..	92	142	234
Representing temporary annual death rate per 1,000.....	12.6	29.1	19.4
<i>Causes of Death.</i>			
Typhoid fever.....	0	1	1
Scarlet fever.....	1	0	1
Malarial fever.....	0	1	1
Measles.....	0	1	1
Pneumonia.....	15	29	44
Consumption.....	12	25	37
Brain diseases.....	10	4	14
Heart diseases.....	12	11	23
Neurotic diseases..	1	3	4
Diarrhœal diseases	1	3	4
All other diseases..	34	58	92
Accident.....	3	3	6
Suicide.....	2	0	2
Violence.....	1	3	4
	92	142	234
Deaths under five years.....	10	35	45
Still-born.....	1	13	14

Mortuary Report for February, 1904.

TOWNS AND REPORTERS.	RACES.	POPULATION.		TEMPORARY ANNUAL DEATH RATE PER 1,000.																		TOTAL DEATHS.		Deaths under five years. Still-born.	
		By Races.	Total.	By Races.	Total.	Typhoid Fever.	Scarlet Fever.	Malarial Fever.	Diphtheria.	Whooping-cough.	Measles.	Pneumonia.	Consumption.	Brain Diseases.	Heart Diseases.	Neurotic Diseases.	Diarrhoeal Diseases.	All Other Diseases.	Accident.	Suicide.	Violence.	By Races.	By Towns.		
Charlotte	W.	11,000	18,200	9.8	13.8	...	...	...	...	...	...	...	2	...	1	...	...	...	4	...	...	9	21	1	...
Dr. F. O. Hawley.	C.	7,200		20.0		1	...	...	...	...	...	4	1	...	...	...	...	...	...	5	1	...	12	7	1	...
Durham	W.	8,000	13,000	24.0	25.8	...	...	...	...	...	...	...	5	4	1	1	...	...	4	1	...	16	28	...	1
Dr. N. M. Johnson.	C.	5,000		28.8		...	...	...	...	...	...	1	1	...	...	...	...	...	...	1	...	...	12	...	...	...
Edenton	W.	1,200	3,100	30.0	23.2	...	...	...	...	...	...	...	...	1	...	1	...	...	2	...	...	3	6	...	...
Dr. T. J. Hoskins.	C.	1,900		18.9		...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	3	...	...	...
Elizabeth City	W.	5,000	8,000	9.6	22.5	...	...	...	...	...	...	...	...	1	...	1	...	...	3	...	...	4	15	...	...
Dr. I. Fearing.	C.	3,000		44.0		...	...	...	...	...	...	2	4	...	...	...	...	...	...	4	...	...	11	...	...	...
Fayetteville	W.	2,500	4,800	19.2	25.0	...	...	...	...	...	...	...	1	1	1	2	...	...	1	...	...	4	10	...	...
Dr. A. S. Rose.	C.	2,300		31.3		...	...	...	...	...	...	...	...	2	...	...	...	...	...	1	...	...	6	...	...	2
Goldsboro	W.	3,500	6,100	3.4	9.8	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	1	5	1	...
Robt. A. Creech, H. O.	C.	2,600		18.4		...	...	...	...	...	...	...	...	1	...	...	...	...	...	2	1	...	4	...	...	1
Greensboro	W.	6,100	10,100	9.8	21.4	...	...	...	...	...	...	...	3	...	1	2	...	...	2	...	...	5	18	1	2
Jno. S. Michaux, C. C.	C.	4,000		39.0		...	...	...	...	...	...	5	3	1	...	...	...	...	...	2	...	...	13	...	...	...
Henderson	W.	2,100	3,800	5.7	6.3	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	1	2	...	...
Dr. John H. Tucker.	C.	1,700		7.1		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Laurinburg	W.	900	1,500	13.3	16.0	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	2	...	...
Dr. G. D. Everington.	C.	600		20.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lenoir	W.	1,200	1,500	10.0	8.0	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	1	...	...
Dr. A. A. Kent.	C.	300		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	...	...
Monroe	W.	1,850	2,450	0.0	9.8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	2	...	...
Dr. Jno. M. Blair.	C.	600		40.0		...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	2	...	...	...
Oxford	W.	1,200	2,450	0.0	20.4	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	5	5	...	...
Dr. S. D. Booth	C.	1,250		48.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Raleigh	W.	8,000	13,800	10.5	12.2	...	...	...	...	...	...	...	...	1	...	3	...	...	3	...	...	7	14	...	...
T. P. Sale, Clerk B. H.	C.	5,800		14.4		...	...	...	...	...	...	2	2	...	...	...	...	...	...	3	...	...	7	...	...	...
Reidsville	W.	2,900	4,200	12.4	25.7	...	...	...	...	...	...	...	...	1	1	1	...	...	...	...	...	3	9	...	1
R. S. Montgomery.	C.	1,300		55.4		...	...	...	...	...	...	2	1	1	...	...	...	...	...	2	...	...	6	...	...	...
Rocky Mount	W.	2,000	3,200	6.0	15.0	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	4	...	...
Dr. J. T. Shubrick, H. O.	C.	1,200		30.0		...	...	...	...	...	...	1	1	1	...	...	...	...	...	...	...	...	3	...	...	...
Salem	W.	3,300	3,650	10.9	13.1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	3	4	...	...
S. E. Butner, Supt. H.	C.	350		34.3		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Salisbury	W.	3,900	6,400	19.5	15.0	...	...	...	...	...	...	...	...	1	1	...	...	...	4	...	...	6	1	...	...
Dr. H. T. Trantham.	C.	2,500		4.8		...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	2	8	...	...
Southport	W.	900	1,400	0.0	0.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	0	...	...
Dr. D. I. Watson.	C.	500		0.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tarboro	W.	2,900	2,500	24.0	48.0	...	...	...	...	...	...	...	...	1	...	...	...	...	1	2	...	4	10	...	...
Dr. Wm. J. Thigpen.	C.	500		144.0		...	...	...	...	...	...	1	2	1	...	...	...	...	...	1	...	...	1	6	...	...
Wadesboro	W.	1,000	1,700	24.0	21.2	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	3	...	...
Dr. J. H. Bennett.	C.	700		17.1		...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	2	...	...	...
Weldon	W.	700	1,450	0.0	24.8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	3	...	...
J. T. Gooch, Mayor.	C.	750		48.0		...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...
Wilmington	W.	11,000	21,000	17.8	27.4	...	...	...	...	...	...	...	3	...	1	3	1	...	7	...	...	16	48	...	...
Dr. Chas. T. Harper.	C.	10,000		38.4		...	1	...	...	...	...	5	3	1	2	2	...	17	...	...	...	...	1	32	...	...
Winston	W.	6,000	10,500	10.0	1.83	...	1	...	...	...	...	...	...	...	2	...	...	...	2	...	...	5	16	...	...
Dr. J. L. Hanes.	C.	4,500		29.3		...	...	...	...	...	...	3	2	...	...	...	2	...	...	2	2	...	...	11	...	...

N. B.—The reporters for the cities and towns printed in **Black Type** have signed this certificate: "I hereby certify that this report gives the *whole* number of deaths occurring within the corporate limits during the above month."

County Superintendents of Health.

Alamance	Dr. T. S. Faucette.	Jones.....	Dr. N. G. Shaw.
Alexander	Dr. C. J. Carson.	Lenoir	Dr. C. L. Pridgen.
Alleghany	Dr. Robt. Thompson.	Lincoln	Dr. John W. Saine.
Anson	Dr. J. H. Bennett.	McDowell	Dr. B. L. Ashworth.
Ashe.....	Dr. Manley Blevins.	Macon	Dr. F. L. Siler.
Beaufort	Dr. D. T. Tayloe.	Madison	Dr. W. J. Weaver.
Bertie	Dr. H. V. Dunstan.	Martin	Dr. W. H. Harrell.
Bladen.....	Dr. L. B. Evans.	Mecklenburg.....	Dr. C. S. McLaughlin.
Brunswick	Dr. J. A. McNeill.	Mitchell.....	Dr. V. R. Butt.
Buncombe	Dr. D. E. Sevier.	Montgomery	Dr. M. P. Blair.
Burke.....	Dr. J. L. Laxton.	Moore.....	Dr. Gilbert McLeod.
Cabarrus	Dr. R. S. Young.	Nash	Dr. J. P. Battle.
Caldwell	Dr. A. A. Kent.	New Hanover	Dr. W. D. McMillan.
Camden.....	Dr. J. L. Lister.	Northampton.....	Dr. H. W. Lewis.
Carteret	Dr. F. M. Clarke.	Onslow.....	Dr. E. L. Cox.
Caswell	Dr. S. A. Malloy.	Orange.....	Dr. D. C. Parris.
Catawba	Dr. Geo. H. West.	Pamlico.....	Dr. H. P. Underhill.
Chatham.....	Dr. T. A. Kirkman.	Pasquotank	Dr. B. Griggs.
Cherokee.....	Dr. B. B. Meroney.	Pender.....	Dr. R. J. Williams.
Chowan.....	Dr. T. J. Hoskins.	Perquimans.....	Dr. C. C. Winslow.
Clay	Dr. P. B. Killian.	Person	Dr. J. A. Wise.
Cleveland	Dr. B. H. Palmer.	Pitt.....	Dr. Zeno Brown.
Columbus.....	Dr. I. Jackson.	Polk	Dr. C. J. Kenworthy.
Craven.....	Dr. Joseph F. Rhem.	Randolph	Dr. W. J. Moore.
Cumberland.....	Dr. A. S. Rose.	Richmond.....	Dr. F. J. Garrett.
Currituck	Dr. H. M. Shaw.	Robeson	Dr. H. T. Pope.
Dare	Dr. W. B. Fearing.	Rockingham	Dr. Sam Ellington.
Davidson.....	Dr. Joel Hill.	Rowan.....	Dr. W. L. Crump.
Davie	Dr. M. D. Kimbrough.	Rutherford.....	Dr. T. B. Twitty.
Duplin	Dr. A. J. Jones.	Sampson	Dr. John A. Stevens.
Durham	Dr. N. M. Johnson.	Scotland	Dr. A. W. Hamer.
Edgecombe	Dr. W. J. Thigpen.	Stanly.....	Dr. V. A. Whitley.
Forsyth.....	Dr. W. O. Spencer.	Stokes	Dr. W. V. McCanless.
Franklin	Dr. E. S. Foster.	Surry	Dr. John R. Woltz.
Gaston.....	Dr. H. F. Glenn.	Swain.....	Dr. A. M. Bennet.
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